Access DB# 174041

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 12/12/2005
Art Unit: 1774 Phone Number ~~38~~ 2-1523 Serial Number: 10/735,700
Mail Box and Bldg/Room Location: Remsen 10C79 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Organic Electroluminescent Element

Inventors (please provide full names): Toshihiro Ise, Tatsuya Igarashi, Hisashi Okada

Earliest Priority Filing Date: 2002-365281 Japan 12/17/02

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search:
the formula E-I → (see cl. 1) as described
on the attached electron of species page

Also search separately:
the H-4 formula (see cl. 9)
as described in the electron of species section attached

If few hits are obtained for this search, please broaden the search to other possibilities listed for the formula.

thank you SEE ATTACHED CLAIMS & ELECTION

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STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: ES	NA Sequence (#)		STN	
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)		Questel/Orbit	
Date Searcher Picked Up:	Bibliographic		Dr.Link	
Date Completed: 9-14-05	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time:	Other		Other (specify)	

PTO-1590 (8-01)

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L22          15 S L20

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L25       55596 S (ELECTRON# OR E)(2A)(TRANSPORT? OR MIGRAT? OR TRANSMIGR
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L40         105 S L38 AND (1840-2001/PY OR 1840-2001/PRY)
L41          25 S L39 AND L40
L42          23 S L41 NOT L27

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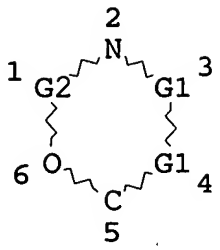

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STEREO ATTRIBUTES: NONE
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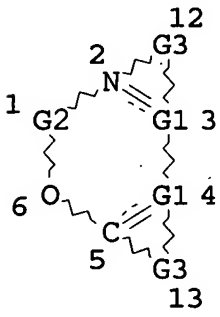

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RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

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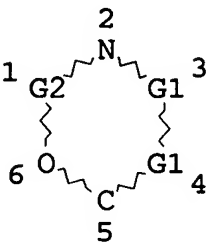

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STEREO ATTRIBUTES: NONE
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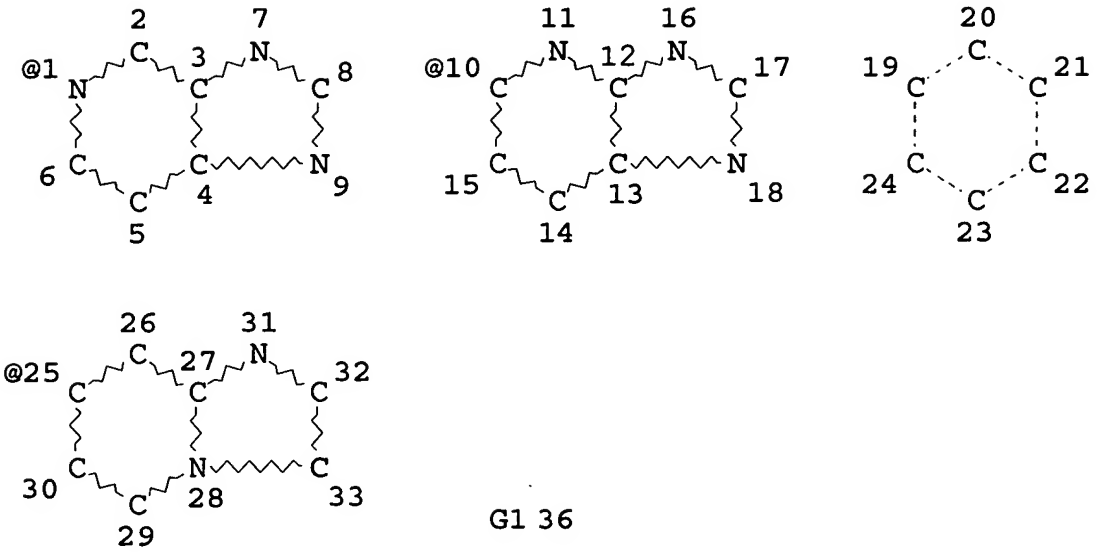

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DEFAULT ECLEVEL IS LIMITED

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STEREO ATTRIBUTES: NONE
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100.0% PROCESSED 41 ITERATIONS 12 ANSWERS
SEARCH TIME: 00.00.01

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FILE 'HCA' ENTERED AT 22:58:42 ON 14 DEC 2005
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COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

=> d l27 1-5 cbib abs hitstr hitind

L27 ANSWER 1 OF 5 HCA COPYRIGHT 2005 ACS on STN
141:147852 Organic **electroluminescent** device. Igarashi,

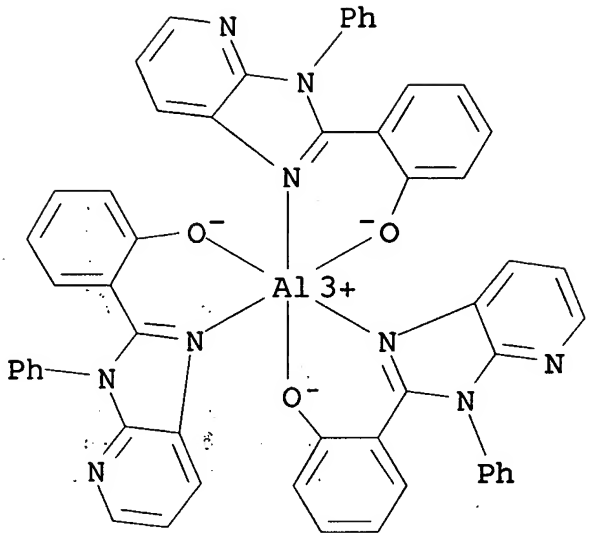
Tatsuya; Watanabe, Saisuke; Ise, Toshihiro; Okada, Hisashi; Nii, Kazumi (Fuji Photo Film Co., Ltd., Japan). PCT Int. Appl. WO 2004062324 A1 20040722, 92 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-JP17048 20031226. PRIORITY: JP 2002-381014 20021227; JP 2003-409183 20031208.

AB Org. **electroluminescent** devices which comprise a pair of electrodes; and .gtoreq.1 org. layer between the pair of electrodes, the org. layers including a luminescent layer, are described in which the luminescent layer contains .gtoreq.1 **electron** injection/**transport** compd., .gtoreq.1 hole injection/transport compd., and .gtoreq.1 green or blue phosphorescent compd.; and the **electron** injection/**transport** compd. and the hole injection/transport compd. each has a min. triplet exciton energy value which is equal to or more than that of the green or blue phosphorescent compd. Preferably, the hole injection/transport compd. is an optionally substituted pyrrole compd. and the **electron** injection/**transport** compd. is a heterocyclic compd. contg. .gtoreq.2 nitrogen atoms.

IT **303049-16-3**
(org. **electroluminescent** device with emitting layers including hole- and **electron-transporting** materials)

RN 303049-16-3 HCA

CN Aluminum, tris[2-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl-.kappa.N1)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS H05B033-22; C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
ST org **electroluminescent** device **electron** hole **transporting** emitting layer
IT **Electroluminescent** devices
(org.; org. **electroluminescent** device with emitting layers including hole- and **electron-transporting** materials)
IT 212-74-8, Tetraphenylene 992-04-1, Hexaphenylbenzene 15082-28-7, PBD 25067-59-8, Polyvinylcarbazole 58328-31-7, CBP 94928-86-6, Tris(2-phenylpyridine) iridium 134984-37-5 139092-78-7 148044-07-9 **303049-16-3** 351863-09-7 462648-27-7 714215-62-0
(org. **electroluminescent** device with emitting layers including hole- and **electron-transporting** materials)

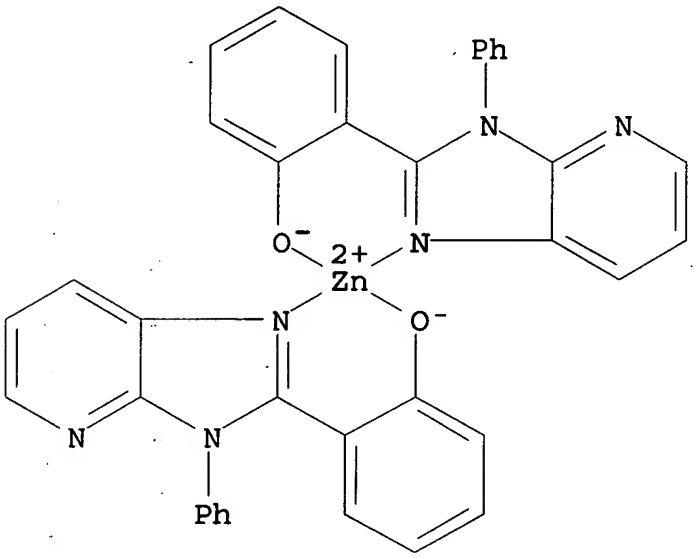
L27 ANSWER 2 OF 5 HCA COPYRIGHT 2005 ACS on STN
141:131052 Organic **electroluminescent** device with **light-emitting** layer containing a metal complex as a host material. Igarashi, Tatsuya; Ise, Toshihiro (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2004137267 A1 20040715, 20 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-738307 20031218. PRIORITY: JP 2002-382454 20021227.
AB Org. **electroluminescent** devices are described which comprise a pair of electrodes; and at least one org. compd. layer

including a **light-emitting** layer between the pair of electrodes, where the **light-emitting** layer contains at least one host material and at least one luminescent material, and the host material is a metal complex contg. a metal in groups 4 to 11 or periods 5 to 6 of the Periodic Table.

IT **303049-17-4**
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)

RN 303049-17-4 HCA

CN Zinc, bis[2-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl-.kappa.N1)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM B32B009-00
ICS B32B019-00

INCL 428690000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78

ST org **electroluminescent** device metal complex host **OLED**

IT **Electroluminescent** devices
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)

IT Rare earth complexes
Transition metal complexes
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)

IT **Luminescent** substances

Phosphorescent substances
(**org. electroluminescent** device with **light-emitting** layer contg. metal complex as host material and)

IT 7439-89-6D, Iron, compds. 7439-96-5D, Manganese, compds. 7439-98-7D, Molybdenum, compds. 7440-02-0D, Nickel, compds. 7440-04-2D, Osmium, compds. 7440-05-3D, Palladium, compds. 7440-15-5D, Rhenium, compds. 7440-17-7D, Rubidium, compds. 7440-18-8D, Ruthenium, compds. 7440-22-4D, Silver, compds. 7440-24-6D, Strontium, compds. 7440-30-4D, Thulium, compds. 7440-31-5D, Tin, compds. 7440-32-6D, Titanium, compds. 7440-33-7D, Tungsten, compds. 7440-36-0D, Antimony, compds. 7440-39-3D, Barium, compds. 7440-46-2D, Cesium, compds. 7440-50-8D, Copper, compds. 7440-54-2D, Gadolinium, compds. 7440-57-5D, Gold, compds. 7440-67-7D, Zirconium, compds. 7440-74-6D, Indium, compds.
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)

IT 79183-73-6 82312-83-2 94928-86-6, Tris(2-phenylpyridine), iridium 123847-85-8, NPD 134984-37-5 139092-78-7 **303049-17-4** 358974-66-0 359014-72-5 376367-93-0 377092-10-9 387859-70-3 435294-03-4 439801-48-6 690977-83-4 693794-98-8
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)

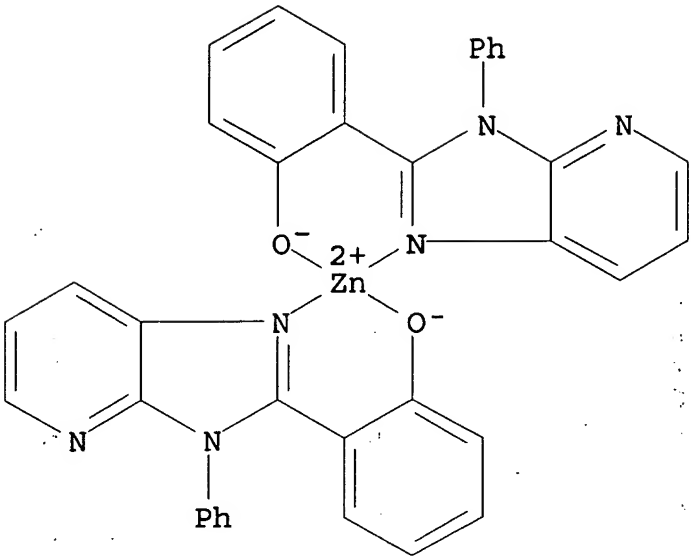
L27 ANSWER 3 OF 5 HCA COPYRIGHT 2005 ACS on STN
137:391157 Organic **electroluminescent** devices with good color, brightness, and durability. Igarashi, Tatsuya (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002338957 A2 **20021127**, 29 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-143414 20010514.

AB The device, useful for displays, backlights, etc., has **light-emitting** layers contg. (A) Ar32Ar31Ar(Ar11Ar12)Ar21Ar22 (Ar11, Ar21, Ar31 = arylene; Ar12, Ar22, Ar32 = H, substituent; Ar11, Ar21, Ar31, Ar12, Ar22, Ar32 = condensed ring aryl, condensed ring heteroaryl; Ar = arylene, heteroarylene) and (B) metal complexes.

IT **303049-17-4**
(org. **EL** devices with good color, brightness, and durability)

RN 303049-17-4 HCA

CN Zinc, bis[2-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl-.kappa.N1)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C09K011-06; C07C015-20; C07C015-38; H05B033-14; C07F003-06; C07F005-06

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST org **EL** display phosphor triaryl benzene; **electroluminescent** device color durability metal complex

IT **Electroluminescent** devices
(displays; org. **EL** devices with good color, brightness, and durability)

IT **Luminescent** screens
Phosphors
(**electroluminescent; org. EL** devices with good color, brightness, and durability)

IT 23467-27-8 146162-49-4 213818-07-6 291758-52-6
303049-17-4 475983-74-5 475983-75-6
(org. **EL** devices with good color, brightness, and durability)

IT 151965-47-8P 349666-25-7P 349666-26-8P 349666-27-9P
349666-28-0P 349666-29-1P
(org. **EL** devices with good color, brightness, and durability)

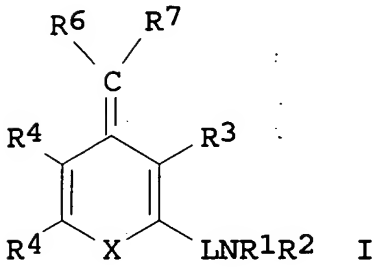
IT 349666-30-4P 474302-40-4P
(org. **EL** devices with good color, brightness, and durability)

IT 90-44-8, Anthrone 626-39-1, 1,3,5-Tribromobenzene 636-28-2, 1,2,4,5-Tetrabromobenzene 68572-88-3 349666-24-6
(org. **EL** devices with good color, brightness, and

durability)

L27 ANSWER 4 OF 5 HCA COPYRIGHT 2005 ACS on STN
137:301832 Luminescent element composition. Nii, Kazumi; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). PCT Int. Appl. WO 2002079343 A1 **20021010**, 101 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2002-JP3101 20020328. PRIORITY: JP 2001-101027 20010330.

GI



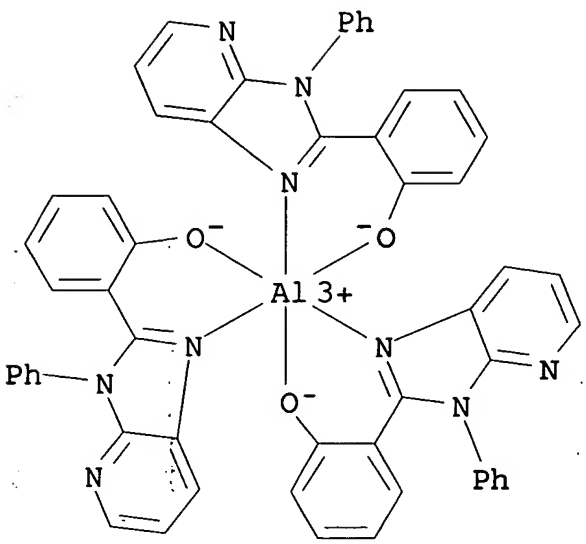
I

AB A luminescent element characterized by comprising a substrate, a pair of electrodes formed thereover, .gtoreq.1 luminescent layer which is disposed between the electrodes and comprises a luminescent material represented by a general formula [I, R1-R5 = H, a substituent; X = O, S, or NR7 (R7 = H or a substituent); L = a connecting group having a conjugated bond; and R6, R7 = H, a substituent, provided that .gtoreq.1 of R6 and R7 = an electron-attracting group.] and a host material, and an org. film which is disposed between the luminescent layer and the cathode so as to be in contact with the luminescent layer and has an ionization potential higher than that of the host material. The compd. represented by I may be in the form of a metal complex.

IT **303049-16-3**
(luminescent element contg. indandione derivs.)

RN 303049-16-3 HCA

CN Aluminum, tris[2-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl-.kappa.N1)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14; H05B033-22
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device indanedion
IT Cathodes
Electrodes
Electroluminescent devices
Ionization potential
Luminescent substances
(luminescent element contg. indandione derivs.)
IT 1450-63-1 2085-33-8, Tris(8-quinolinolato)aluminum 4733-39-5
15082-28-7 50926-11-9, ITO 65181-78-4, TPD 151965-47-8
161001-49-6 255709-81-0 **303049-16-3** 313950-73-1
457286-70-3 467449-38-3 467449-45-2
(luminescent element contg. indandione derivs.)

L27 ANSWER 5 OF 5 HCA COPYRIGHT 2005 ACS on STN
133:327749 Organic **electroluminescent** materials having azole ring, azole compound complexes, and **electroluminescent** devices. Igarashi, Tatsuya; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000302754 A2 **20001031**, 27 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-340788 19991130. PRIORITY: JP 1999-36107 19990215.
GI

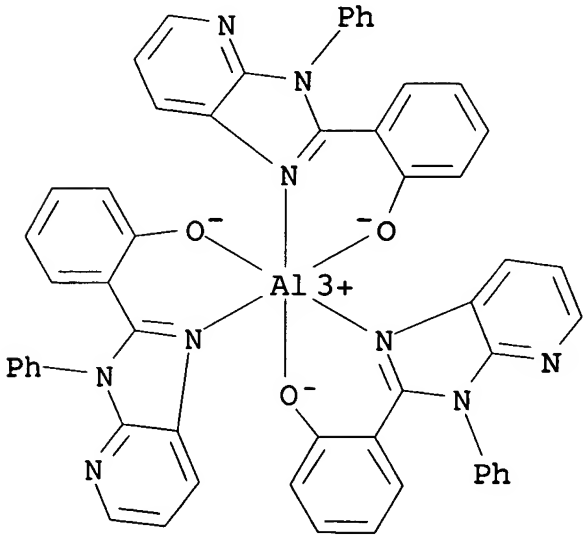
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The **electroluminescent** materials comprise compds. having partial structure I [R11, R12 = H, substituent; R11 and R12 do not form a ring; X1 = O, S, (un)substituted N, CR13R14; R13, R14 = H, substituent; Y1 = O,S, (un)substituted N; M1 = metal ion, H; Z1 = at. group to form a 5-6-membered ring] or II (Q1 = at. group to form a heterocycle; X2, Y2, M2, and Z2 = any group given for X1, Y1, M1, and Z1, resp.). Also claimed are azole compd. complexes III (R21, R22 = H, alkyl, aryl, heteroaryl; X3 and Y3 = any group given for X1 and Y1, resp.; M3 = metal ion; q1 .gtoreq. 1; L1 = ligand; m1 .gtoreq. 0; Z3 has no definition) and IV (Q2, X4, and Y4 = any group given for Q1, X1, and Y1, resp.; M4 = metal ion; q2 .gtoreq. 1; L2 = ligand; m2 .gtoreq. 0) and org. **electroluminescent** devices having which has .gtoreq.1 layer contg. .gtoreq.1 selected from I, II, III, and IV. A mixt. of salicylic acid, AcOEt, and DMF was treated with (COCl)2 at room temp. for 30 min and then treated with benzoin and Et3N at room temp. for 3 h to give 2-HOC6H4CO2CHPhCOBz. This was treated with AcONH4 in AcOH under reflux and the resulting triphenyloxazole deriv. was further treated with Zn(OAc)2 to give III (R21 = R22 = Ph, X3 = Y3 = O, M3 = Zn, q1 = 2, m1 = 0, Z3 = at. group to give a condensed benzene ring). An **electroluminescent** device having a luminescent layer contg. the complex showed blue emission.

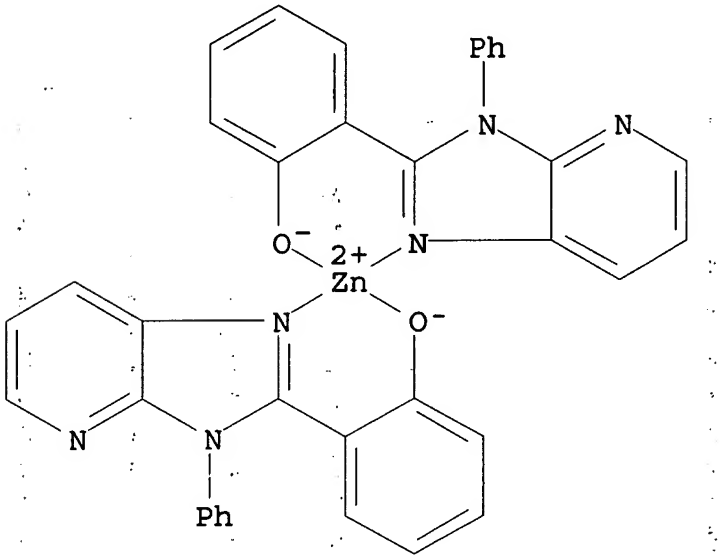
IT **303049-16-3P 303049-17-4P**
(prepn. of azole compds. and their metal complexes for **electroluminescent** devices)

RN 303049-16-3 HCA

CN Aluminum, tris[2-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl-.kappa.N1)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



RN 303049-17-4 HCA
CN Zinc, bis[2-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl-.kappa.N1)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



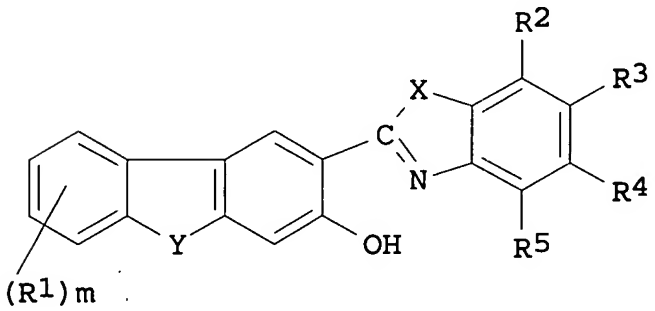
IC ICM C07D207-333
ICS C07D233-64; C07D263-32; C07D277-24; C07D277-28; C07D413-04; C07D471-04; C07D487-04; C07D491-048; C07D495-14; C09K011-06; H05B033-14; H05B033-22
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 28, 78
ST hydroxyphenylazole metal complex **electroluminescent** device; oxazole hydroxyphenyl complex **electroluminescent** device
IT **Electroluminescent** devices
(prepn. of azole compds. and their metal complexes for **electroluminescent** devices)
IT 291758-52-6P 303049-10-7P 303049-11-8P 303049-12-9P **303049-16-3P 303049-17-4P**
(prepn. of azole compds. and their metal complexes for **electroluminescent** devices)
IT 62-53-3, Benzenamine, reactions 69-72-7, reactions 79-37-8, Oxalyl chloride 90-02-8, Salicylaldehyde, reactions 119-53-9, Benzoin 5470-18-8, 2-Chloro-3-nitropyridine
(prepn. of azole compds. and their metal complexes for **electroluminescent** devices)
IT 34949-41-2P 291751-55-8P 303049-09-4P 303049-13-0P 303049-14-1P 303049-15-2P
(prepn. of azole compds. and their metal complexes for

electroluminescent devices)

=> d l42 1-23 cbib abs hitstr hitind

L42 ANSWER 1 OF 23 HCA COPYRIGHT 2005 ACS on STN
138:409101 **Electroluminescent** device with dibenzofuran, fluorenone, or fluorene derivative. Enomoto, Kazuhiro; Nishimura, Kazuhito (Sharp Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2003147344 A2 20030521, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-345020 20011109.

GI



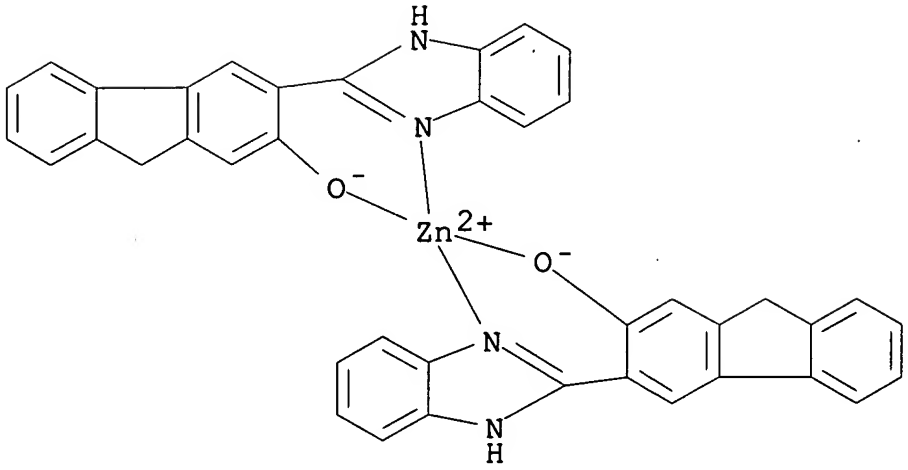
I

AB The invention refers to an **electroluminescent** device comprising I [X = O, S or NH; Y = O, C:O, or CH2; R1 = H, halo, lower alc. or may join to form aliph. rings when m < 1; R2-5 = lower alc., alkoxy, halo or H, and adjacent groups may join to from arom. rings] for high **electron transport** and thermal stability.

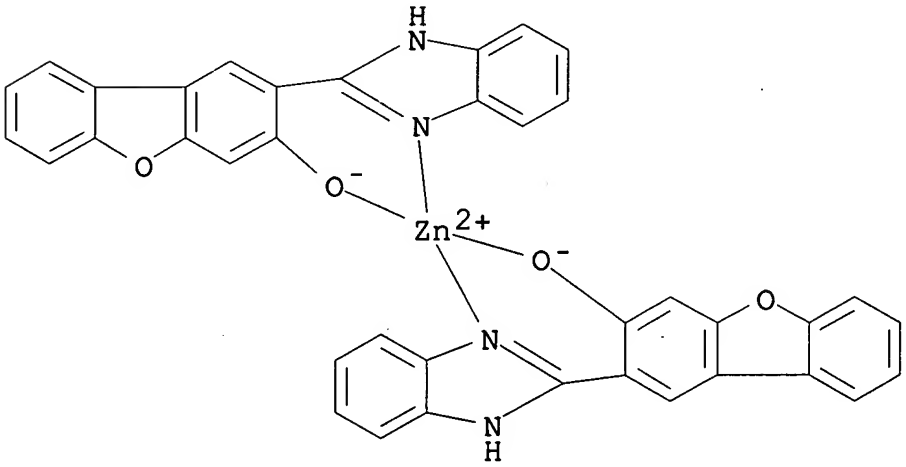
IT **528578-74-7 528578-76-9 528578-77-0 528578-78-1 528578-79-2 528578-80-5 528578-81-6**
(**electroluminescent** device with dibenzofuran, fluorenone, or fluorene deriv.)

RN 528578-74-7 HCA

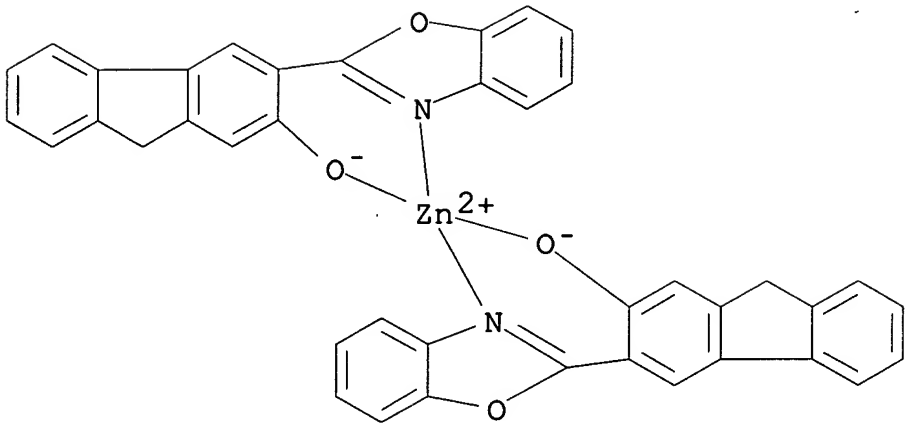
CN Zinc, bis[3-(1H-benzimidazol-2-yl-.kappa.N3)-9H-fluoren-2-olato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



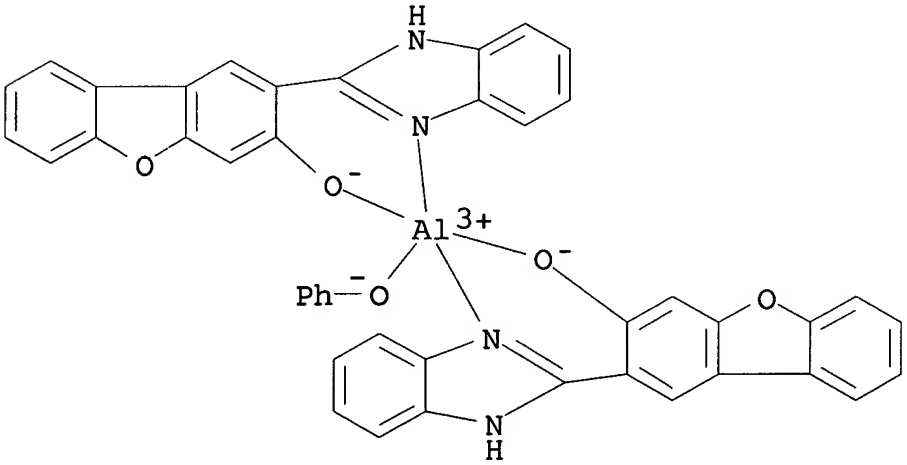
RN 528578-76-9 HCA
CN Zinc, bis[2-(1H-benzimidazol-2-yl-.kappa.N3)-3-dibenzofuranolato-.kappa.O3]-, (T-4)- (9CI) (CA INDEX NAME)



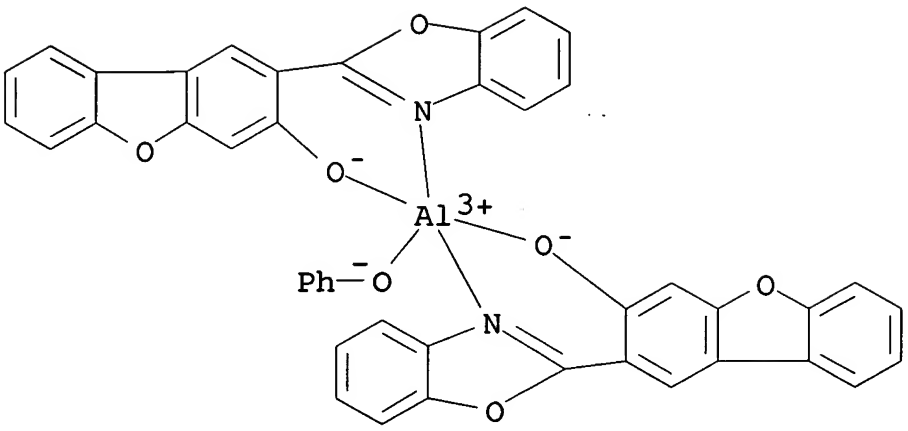
RN 528578-77-0 HCA
CN Zinc, bis[3-(2-benzoxazolyl-.kappa.N3)-9H-fluoren-2-olato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



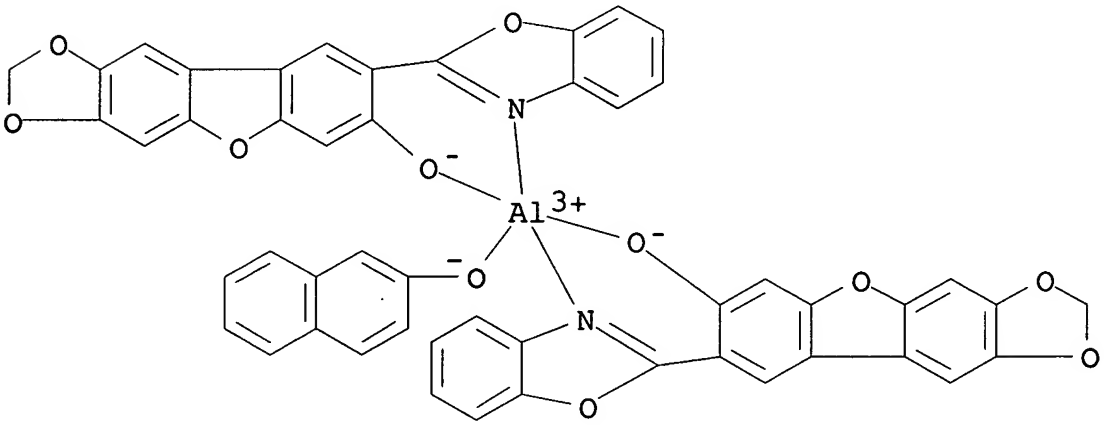
RN 528578-78-1 HCA
CN Aluminum, bis[2-(1H-benzimidazol-2-yl-.kappa.N3)-3-dibenzofuranolato-.kappa.O3]phenoxy- (9CI) (CA INDEX NAME)



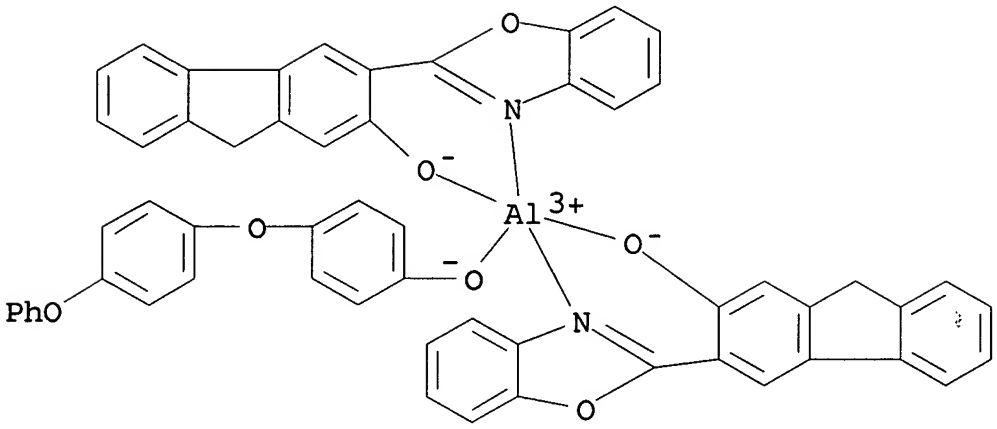
RN 528578-79-2 HCA
CN Aluminum, bis[2-(2-benzoxazolyl-.kappa.N3)-3-dibenzofuranolato-.kappa.O3]phenoxy- (9CI) (CA INDEX NAME)



RN 528578-80-5 HCA
CN Aluminum, bis[8-(2-benzoxazolyl-.kappa.N3)benzofuro[2,3-f]-1,3-benzodioxol-7-olato-.kappa.O7](2-naphthalenolato)- (9CI) (CA INDEX NAME)

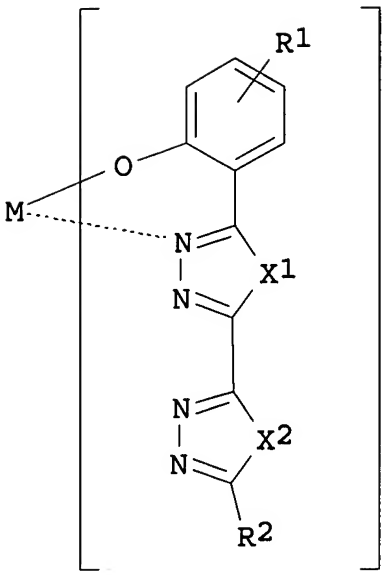


RN 528578-81-6 HCA
CN Aluminum, bis[3-(2-benzoxazolyl-.kappa.N3)-9H-fluoren-2-olato-.kappa.O][4-(4-phenoxyphenoxy)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST **electroluminescent** device dibenzofuran fluorene fluorenone
IT **Electroluminescent** devices
Electron transport
Thermal stability
(**electroluminescent** device with dibenzofuran, fluorenone, or fluorene deriv.)
IT **528578-74-7** 528578-75-8 **528578-76-9**
528578-77-0 528578-78-1 528578-79-2
528578-80-5 528578-81-6 528578-82-7
(**electroluminescent** device with dibenzofuran, fluorenone, or fluorene deriv.)

L42 ANSWER 2 OF 23 HCA COPYRIGHT 2005 ACS on STN
138:346227 Organic **electroluminescent** device. Yamada, Naoki; Tanabe, Hiroshi; Ueno, Kazunori (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2003123977 A2 20030425, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-311600 20011009.
GI



I

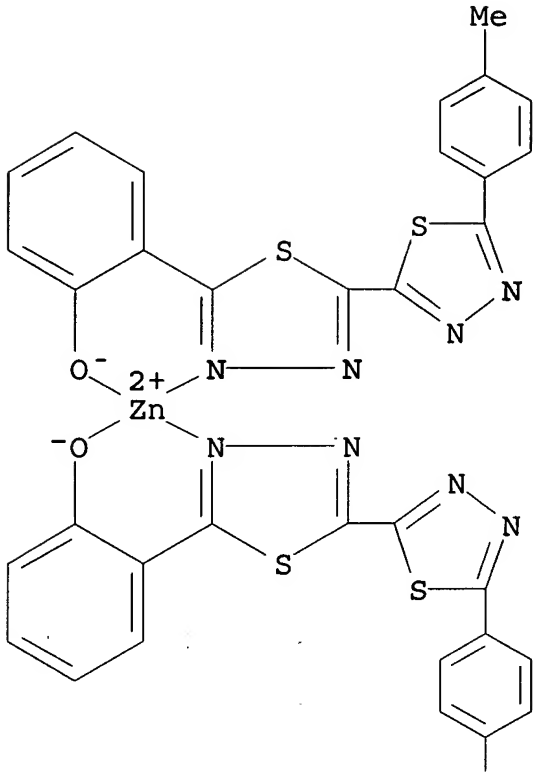
AB The invention relates to an org. **electroluminescent** device comprising the org. layer contg. the compd. represented by I [X1 and X2 = Group VIA element, such as O, S, Se, etc.; R1 and R2 = H, aryl, heterocyclic, etc.; M = metal element; n = integer .gtoreq.1].

IT **515111-42-9 515111-43-0 515111-44-1**
(org. **electroluminescent** device)

RN 515111-42-9 HCA

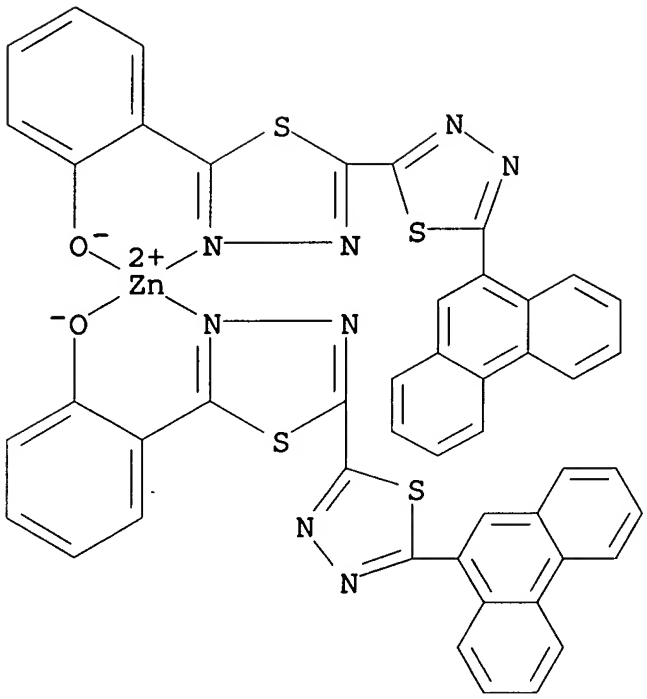
CN Zinc, bis[2-[5'-(4-methylphenyl)[2,2'-bi-1,3,4-thiadiazol]-5-yl-.kappa.N4]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A



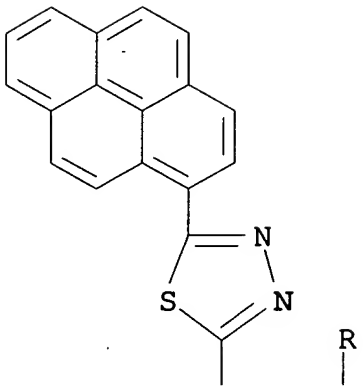
PAGE 2-A

RN 515111-43-0 HCA
CN Zinc, bis[2-[5'-(9-phenanthrenyl)[2,2'-bi-1,3,4-thiadiazol]-5-yl-.kappa.N4]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

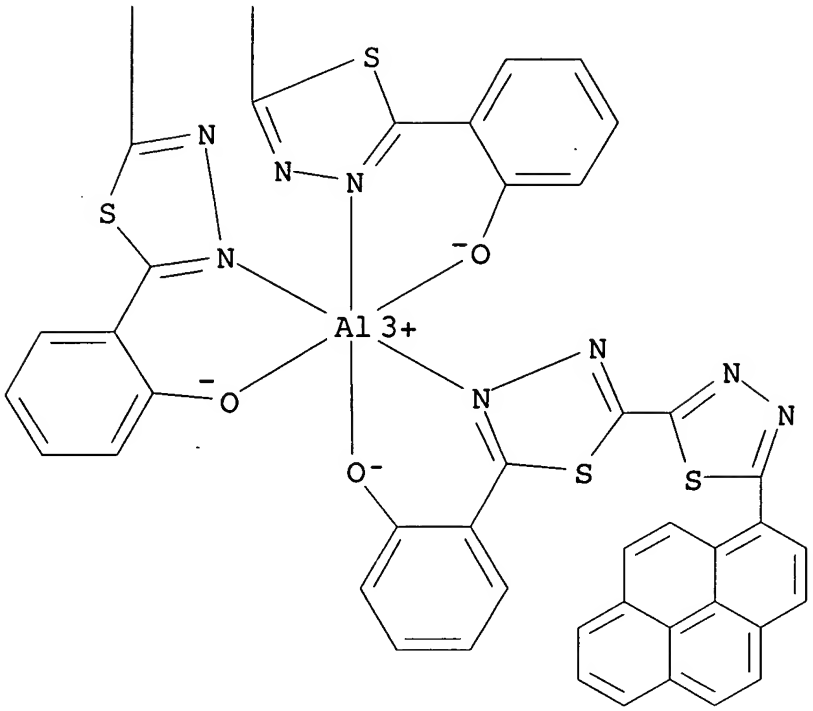


RN 515111-44-1 HCA
CN Aluminum, tris[2-[5'-(1-pyrenyl)[2,2'-bi-1,3,4-thiadiazol]-5-yl-.kappa.N4]phenolato-.kappa.O]- (9CI) (CA INDEX NAME)

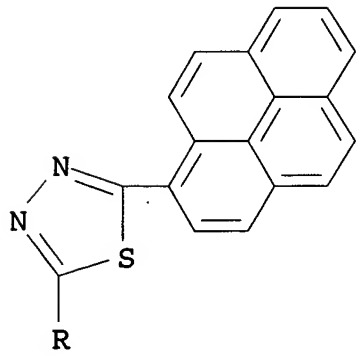
PAGE 1-A



PAGE 2-A



PAGE 3-A



IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device bisthiadiazole complex
IT **Electroluminescent** devices

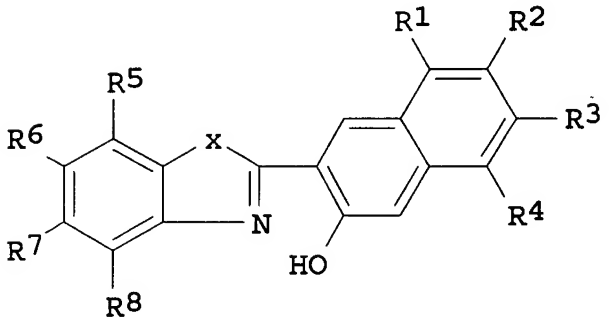
(org. **electroluminescent** device)

IT **515111-42-9 515111-43-0 515111-44-1**
(org. **electroluminescent** device)

L42 ANSWER 3 OF 23 HCA COPYRIGHT 2005 ACS on STN

138:262448 **Electroluminescent** devices with high luminance.
Enomoto, Kazuhiro (Sharp Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2003082341 A2 20030319, 17 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 2001-272328 20010907.

GI



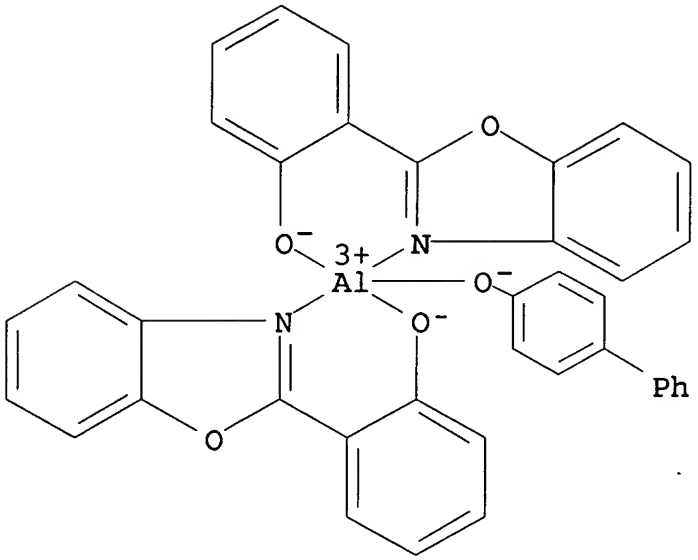
I

AB In the devices having .gtoreq.1 org. layers between anodes and cathodes, the org. layers comprise metal complexes having I ligands (X = O, S, NH; R1-R8 = lower alkyl or alkoxy, halo, H; adjacent R1-R8 may form arom. ring). The metal complexes show high glass transition temp., good film-forming and **electron-transporting** properties, and high thermal stability.

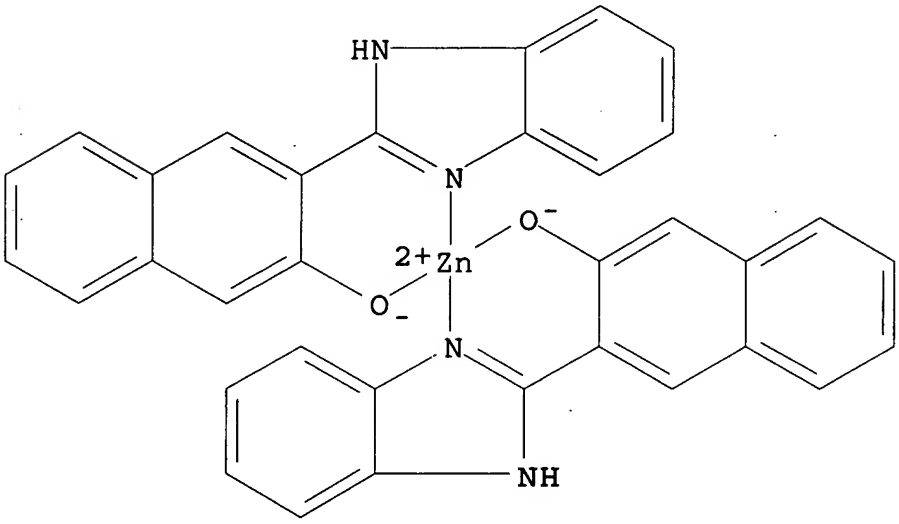
IT **286383-62-8 502634-87-9 502634-89-1**
502634-90-4 502634-91-5 502634-93-7
502634-95-9 502634-96-0 502634-97-1
502634-98-2 502689-07-8
(**light-emitting** layers; high-luminance **electroluminescent** devices contg. heat-resistant metal complexes)

RN 286383-62-8 HCA

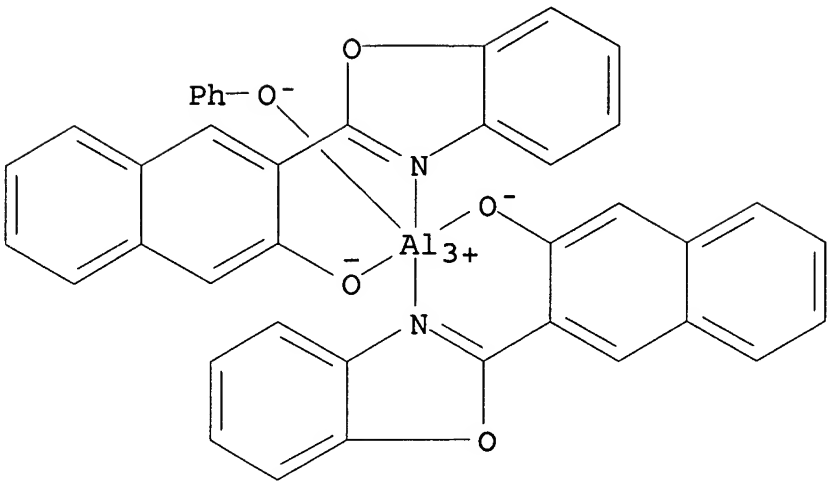
CN Aluminum, bis[2-(2-benzoxazolyl-.kappa.N3)phenolato-.kappa.O][[1,1'-biphenyl]-4-olato]- (9CI) (CA INDEX NAME)



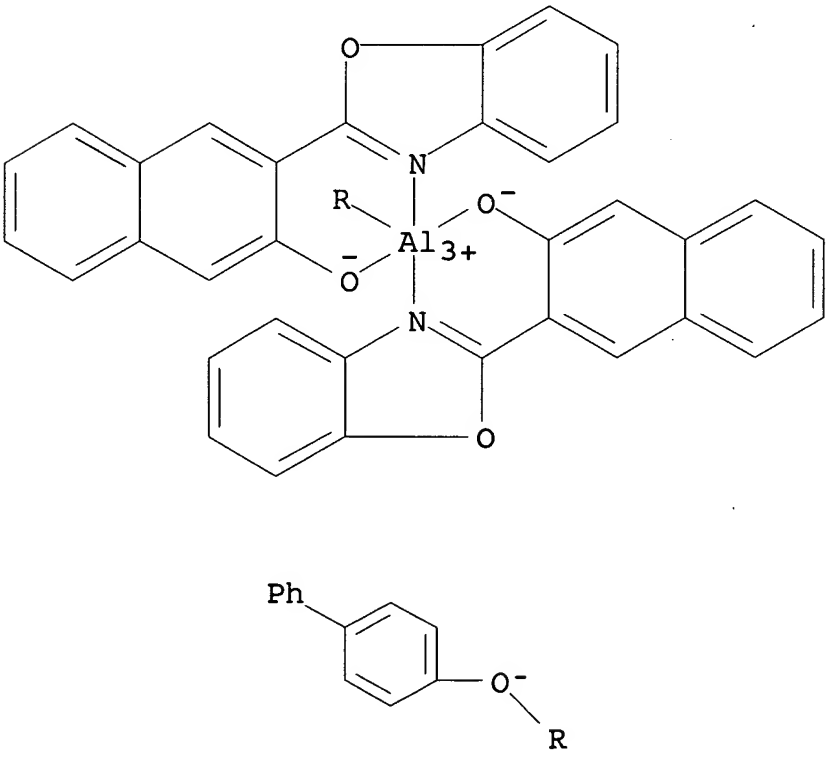
RN 502634-87-9 HCA
CN Zinc, bis[3-(1H-benzimidazol-2-yl-.kappa.N3)-2-naphthalenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



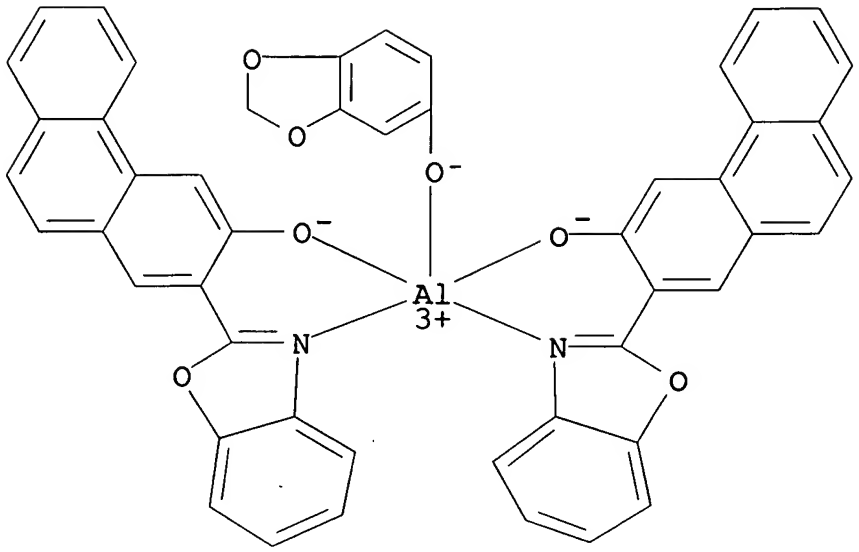
RN 502634-89-1 HCA
CN Aluminum, bis[3-(2-benzoxazolyl-.kappa.N3)-2-naphthalenolato-.kappa.O]phenoxy- (9CI) (CA INDEX NAME)



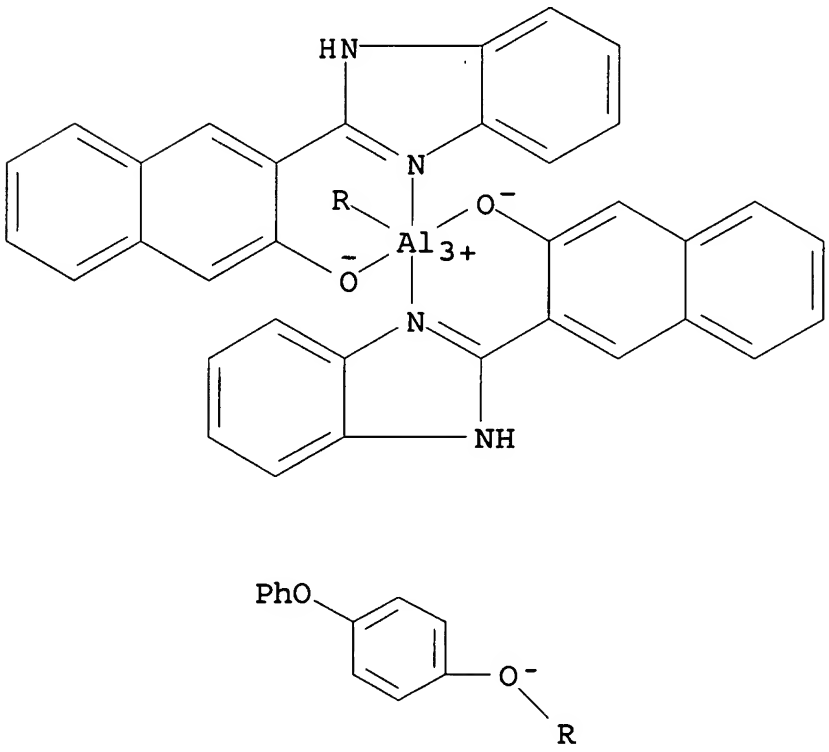
RN 502634-90-4 HCA
CN Aluminum, bis[3-(2-benzoxazolyl-.kappa.N3)-2-naphthalenolato-.kappa.O][[1,1'-biphenyl]-4-olato]- (9CI) (CA INDEX NAME)



RN 502634-91-5 HCA
CN Aluminum, (1,3-benzodioxol-5-olato-.kappa.O5)bis[2-(2-benzoxazolyl-.kappa.N3)-3-phenanthrenolato-.kappa.O]- (9CI) (CA INDEX NAME)

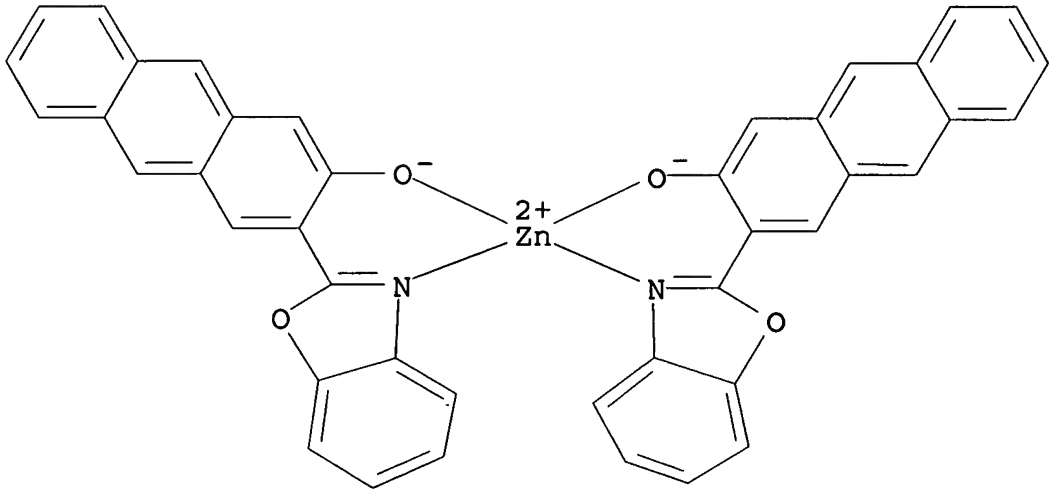


RN 502634-93-7 HCA
CN Aluminum, bis[3-(1H-benzimidazol-2-yl-.kappa.N3)-2-naphthalenolato-.kappa.O](4-phenoxyphenolato-.kappa.O)- (9CI) (CA INDEX NAME)

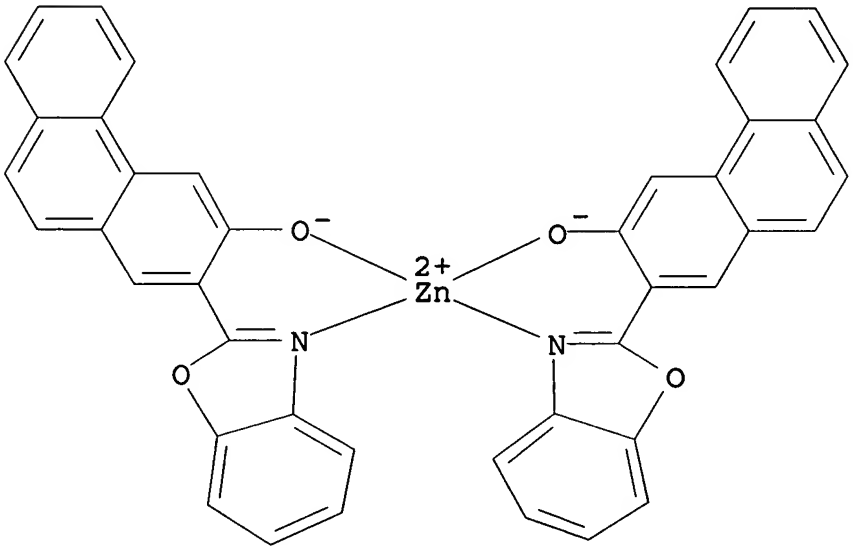


RN 502634-95-9 HCA

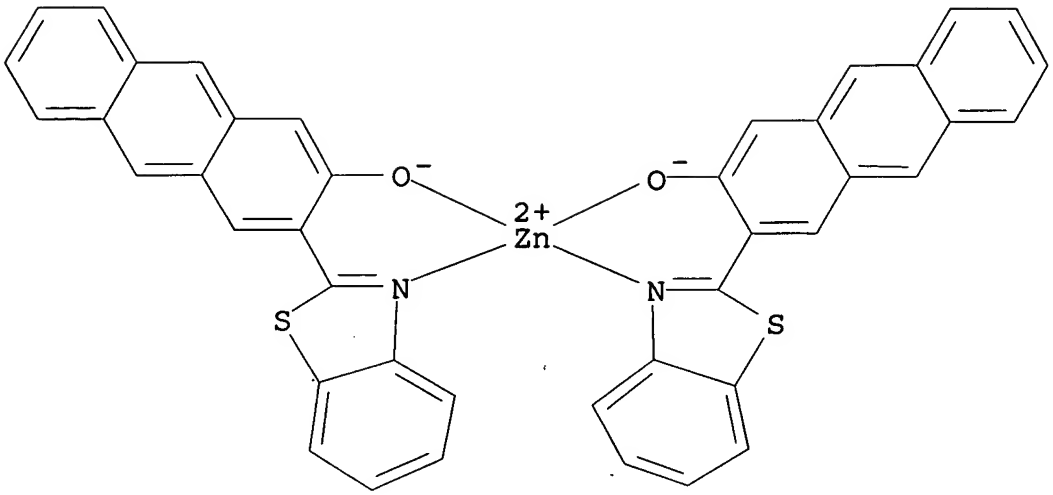
CN Zinc, bis[3-(2-benzoxazolyl-.kappa.N3)-2-anthracenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



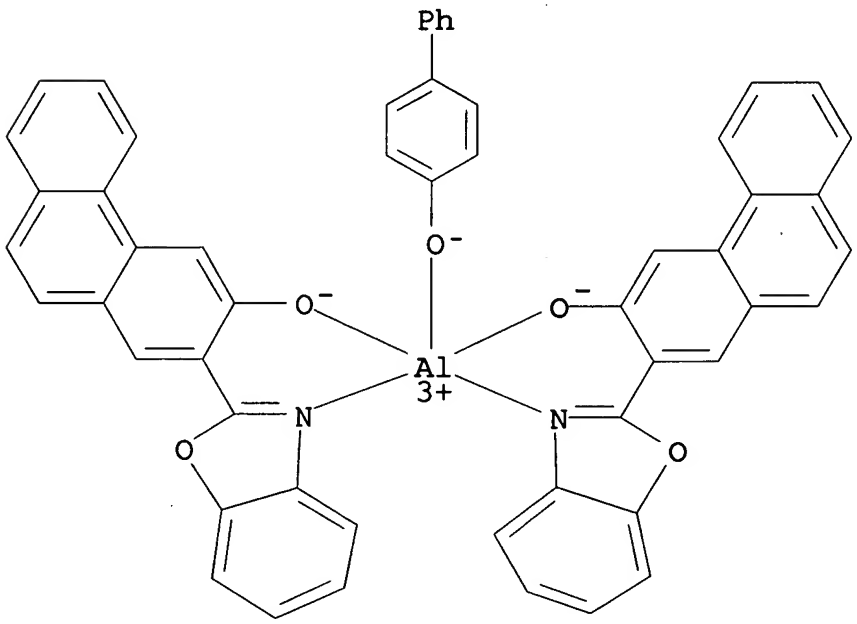
RN 502634-96-0 HCA
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-3-phenanthrenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



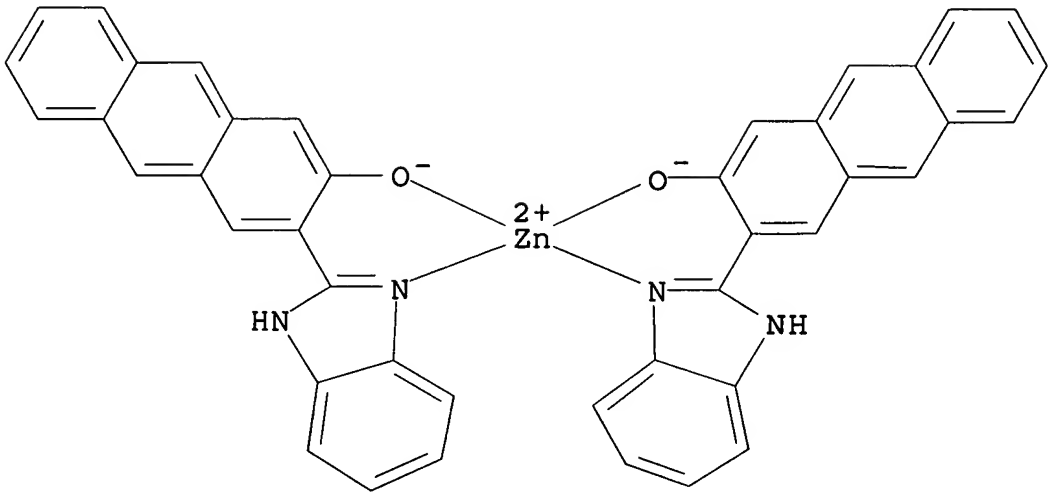
RN 502634-97-1 HCA
CN Zinc, bis[3-(2-benzothiazolyl-.kappa.N3)-2-anthracenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 502634-98-2 HCA
CN Aluminum, bis[2-(2-benzoxazolyl-.kappa.N3)-3-phenanthrenolato-.kappa.O][[1,1'-biphenyl]-4-olato]- (9CI) (CA INDEX NAME)



RN 502689-07-8 HCA
CN Zinc, bis[3-(chloro-1H-benzimidazol-2-yl-.kappa.N3)-2-anthracenolato-.kappa.O]- (9CI) (CA INDEX NAME)



2 (D1—Cl)

IC ICM C09K011-06
ICS H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST metal complex **electroluminescent** device luminance improvement; thermal stability metal complex **electroluminescent** device; benzoxazole complex **electroluminescent** device luminance improvement; benzimidazole complex **electroluminescent** device luminance improvement; benzothiazole complex **electroluminescent** device luminance improvement

IT Ligands
(complexes, **light-emitting** layers; high-luminance **electroluminescent** devices contg. heat-resistant metal complexes)

IT **Electroluminescent** devices
(high-luminance **electroluminescent** devices contg. heat-resistant metal complexes)

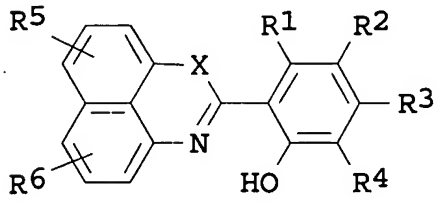
IT 56235-91-7, .alpha.-Naphthol lithium salt
(electron-barrier layers; high-luminance **electroluminescent** devices contg. heat-resistant metal complexes)

IT 157759-29-0
(hole-transporting layers; high-luminance **electroluminescent** devices contg. heat-resistant metal complexes)

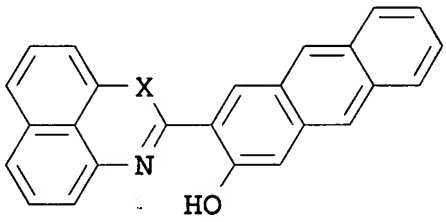
IT 128904-10-9 **286383-62-8** 502634-83-5 502634-84-6
502634-85-7 502634-86-8 **502634-87-9** 502634-88-0
502634-89-1 **502634-90-4** **502634-91-5**
502634-92-6 **502634-93-7** 502634-94-8 **502634-95-9**
502634-96-0 **502634-97-1** **502634-98-2**
502689-07-8
(**light-emitting** layers; high-luminance **electroluminescent** devices contg. heat-resistant metal complexes)

L42 ANSWER 4 OF 23 HCA COPYRIGHT 2005 ACS on STN
138:262410 **Electroluminescent** devices. Enomoto, Kazuhiro; Nishimura, Kazuhito (Sharp Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2003086378 A2 20030320, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-275270 20010911.

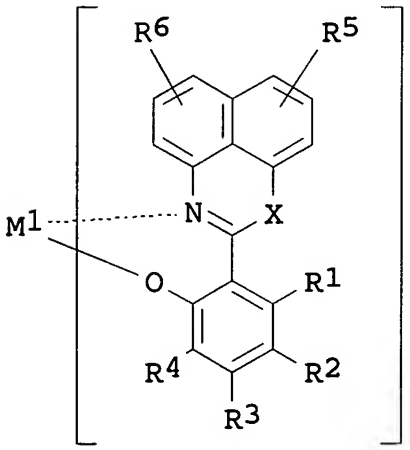
GI



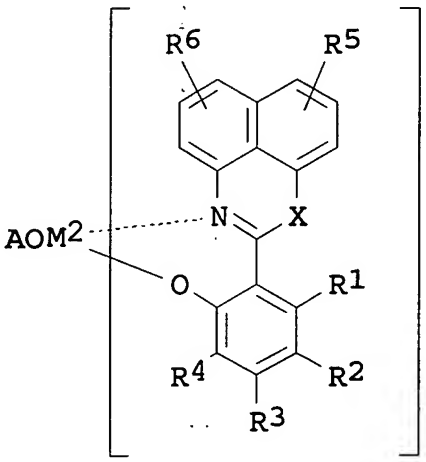
I



II



III



IV

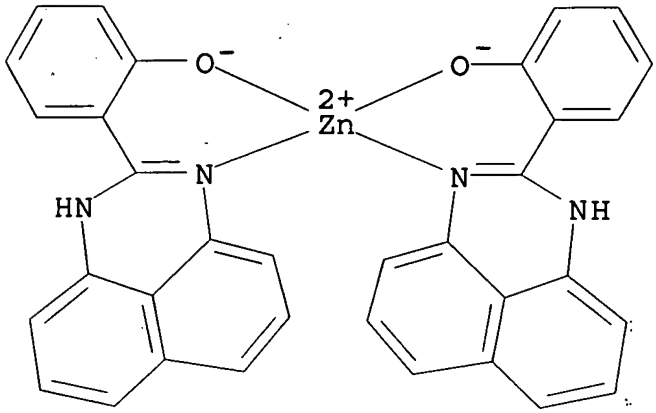
AB The devices comprise: (1) a metal complex having a legend I or II (X = O, S, NH; R1-6 = alkyl, alkoxy, Ph, halo, H; R1,2, R2,3 and R3,4 may form an arom. ring); and (2) and (3), III and IV, resp. (M1,2 = divalent and trivalent metal, resp.; A = (substituted) C6-18 arom.

group), where, typically, M1 = Zn, Mg, Be, Ni, Hg; M2 = Al, In, Ru, Os; and the devices comprise a glass substrate, an ITO electrode, a hole transport layer, an org. phosphor layer, an **electron transport** layer and a MgAg electrode.

IT **502422-16-4 502422-18-6 502422-20-0 502422-21-1 502422-22-2 502422-24-4**
(**electroluminescent** devices contg. metal complex)

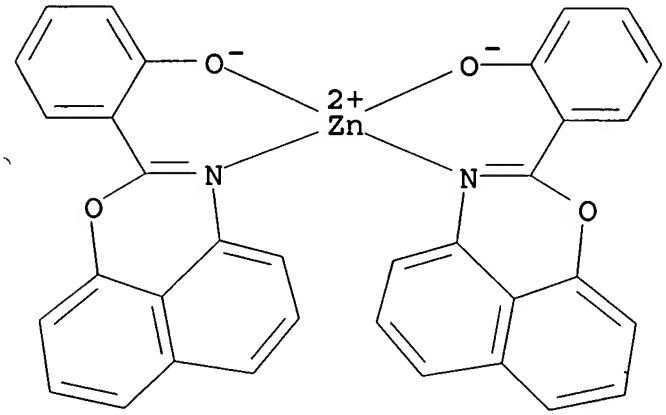
RN 502422-16-4 HCA

CN Zinc, bis[2-(1H-perimidin-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



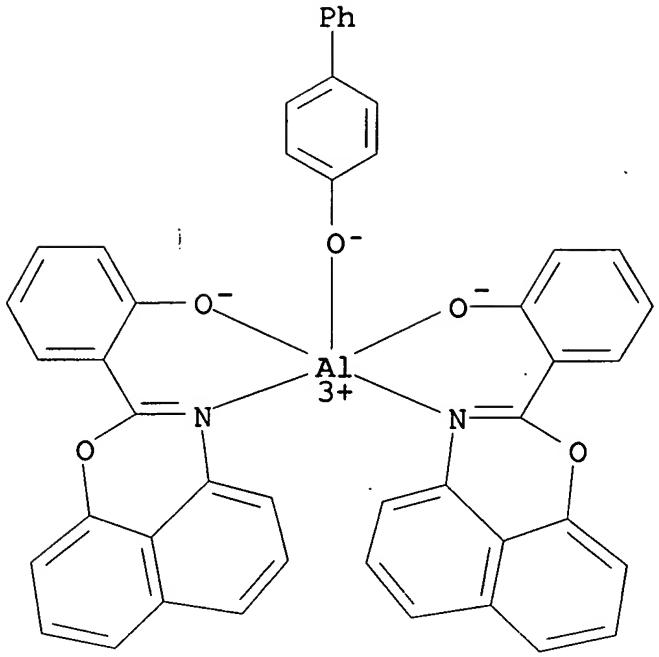
RN 502422-18-6 HCA

CN Zinc, bis[2-(naphth[1,8-de]-1,3-oxazin-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

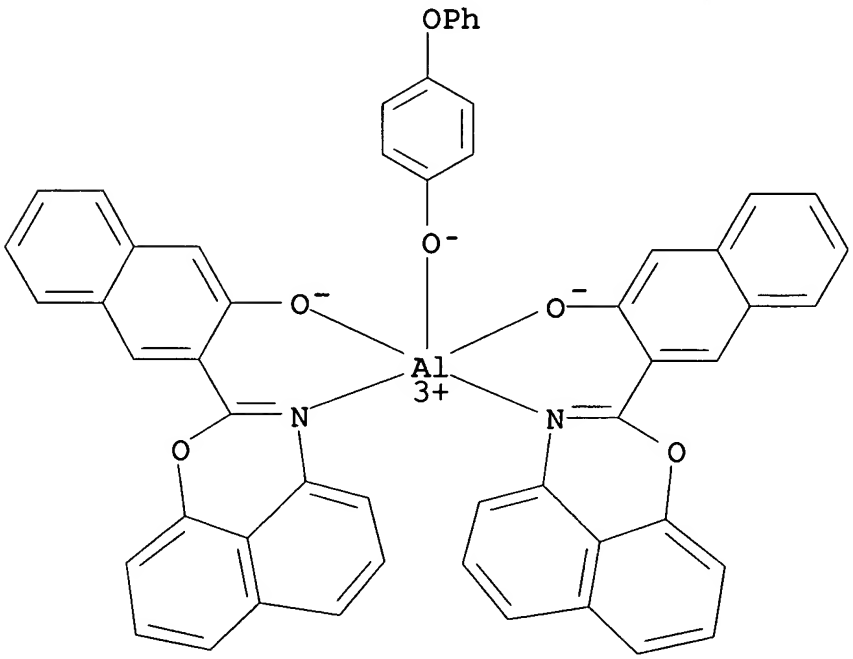


RN 502422-20-0 HCA

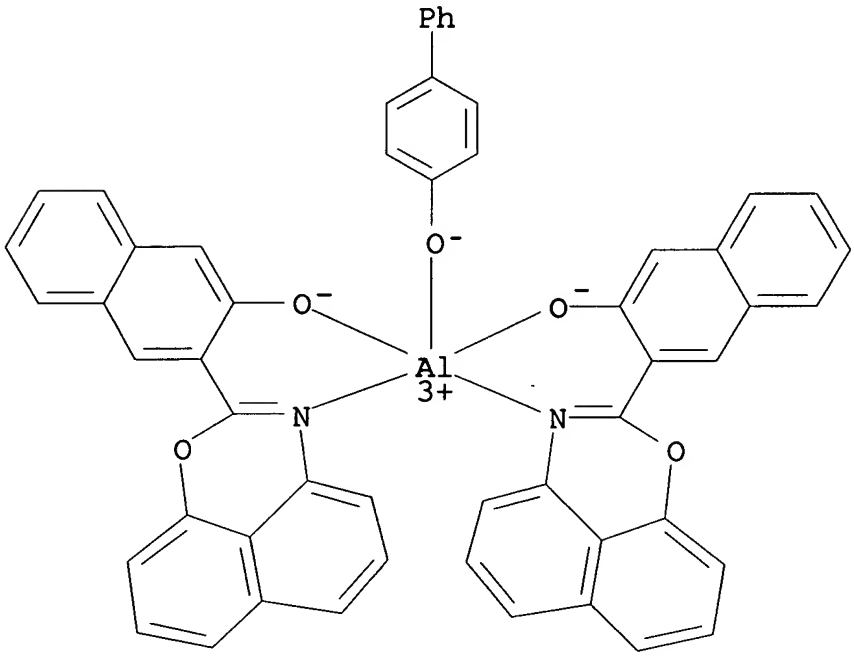
CN Aluminum, ([1,1'-biphenyl]-4-olato)bis[2-(naphth[1,8-de]-1,3-oxazin-2-yl-.kappa.N3)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



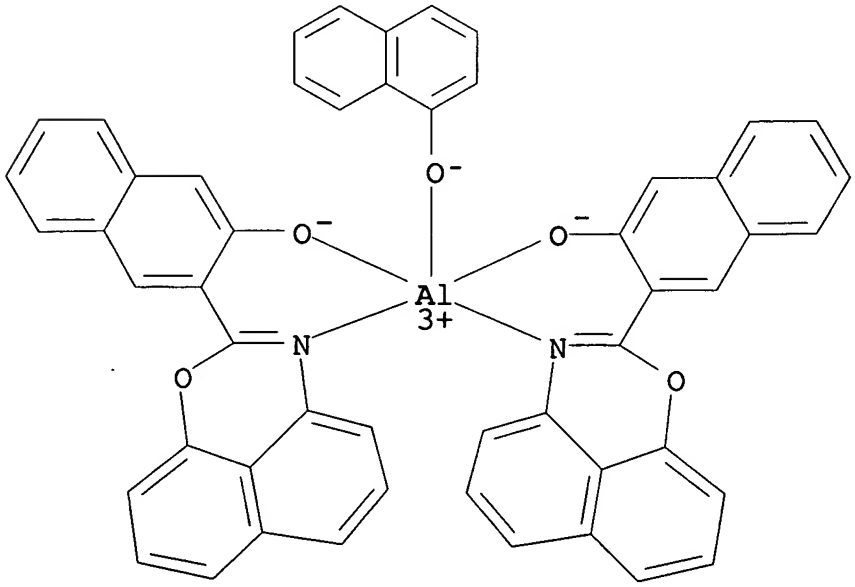
RN 502422-21-1 HCA
CN Aluminum, bis[3-(naphth[1,8-de]-1,3-oxazin-2-yl-.kappa.N3)-2-naphthalenolato-.kappa.O](4-phenoxyphenolato-.kappa.O)- (9CI) (CA INDEX NAME)



RN 502422-22-2 HCA
CN Aluminum, ([1,1'-biphenyl]-4-olato)bis[3-(naphth[1,8-de]-1,3-oxazin-2-yl-.kappa.N3)-2-naphthalenolato-.kappa.O]- (9CI) (CA INDEX NAME)



RN 502422-24-4 HCA
CN Aluminum, (1-naphthalenolato)bis[3-(naphth[1,8-de]-1,3-oxazin-2-yl-.kappa.N3)-2-naphthalenolato-.kappa.O]- (9CI) (CA INDEX NAME)



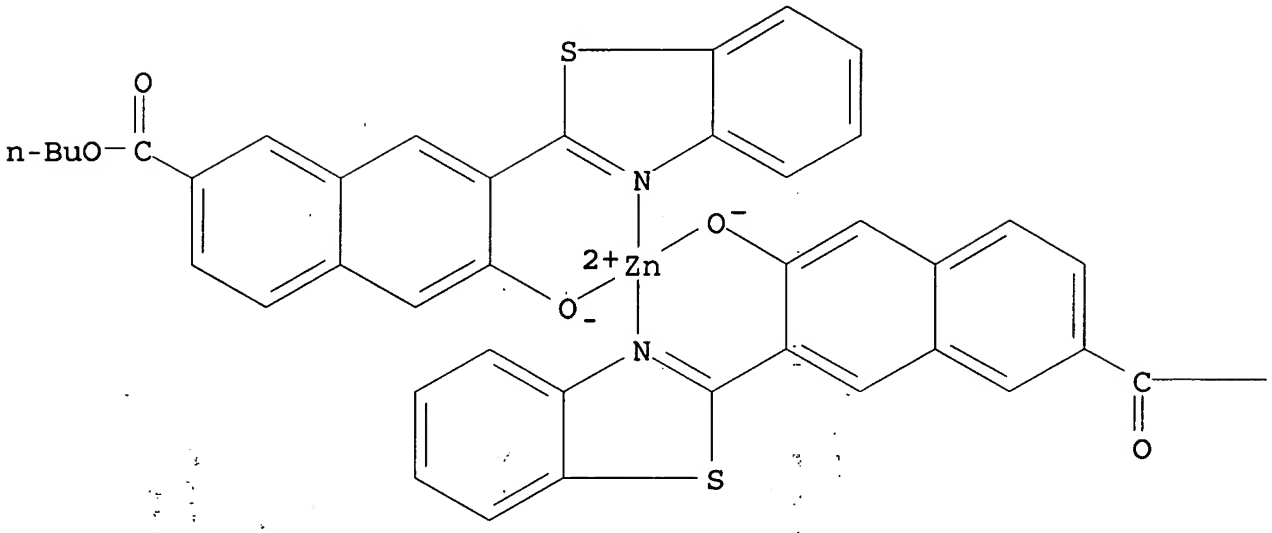
IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST metal complex **electroluminescent** device
IT **Electroluminescent** devices
Glass substrates
(**electroluminescent** devices contg. metal complex)
IT Coordination compounds
(**electroluminescent** devices contg. metal complex)
IT 37271-44-6 50926-11-9, ITO 502185-67-3 **502422-16-4**
502422-17-5 **502422-18-6** 502422-19-7 **502422-20-0**
502422-21-1 **502422-22-2** 502422-23-3
502422-24-4
(**electroluminescent** devices contg. metal complex)

L42 ANSWER 5 OF 23 HCA COPYRIGHT 2005 ACS on STN
136:14779 Preparation of naphthol derivatives and metal complexes.
Ueno, Ryuzo; Kitayama, Masaya; Minami, Kenji; Wakamori, Hiroyuki (Kabushiki Kaisha Ueno Seiyaku Oyo Kenkyujo, Japan). PCT Int. Appl. WO 2001087859 A1 **20011122**, 53 pp. DESIGNATED STATES: W: CN, JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2001-JP4006 20010515. PRIORITY: JP 2000-143219 20000516.
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. [I; Y1, Y2 independently = Q, ACO ; A = OH, C6H5NH, O(CH2)3CH3, O(CH2)15CH3, NH(CH2)11CH3, 2-NHC6H4CH3, OCH3; X1 = O, S, NH; Z = optionally substituted arom. group or a heterocyclic group bearing a conjugated double bond; R = H, Na, alkyl, CH3CO; R1 = H, NO2], salts, various azo (mono, bis, and tris) compds., and metal complexes thereof, are prepd. as dye, org. photoreceptor, or **electroluminescence** material. The title compd. II was prepd. from 4,4',4''-triaminotriphenylamine and I (Y1 = Y2 = Q; X1 = S; Z = benzo; R = H; R1 = H). The title metal complex III was prepd. from title compd. I (Y1 = Y2; X1 = S; Z = benzo; R = H; R1 = H) and Cu(OAc)2.cntdot.H2O.
IT **374776-65-5P** **374776-69-9P**
(prepn. of naphthol derivs. and metal complexes)
RN 374776-65-5 HCA
CN Zinc, bis[butyl 7-(2-benzothiazolyl-.kappa.N3)-6-(hydroxy-.kappa.O)-2-naphthalenecarboxylato]-, (T-4)- (9CI) (CA INDEX NAME)

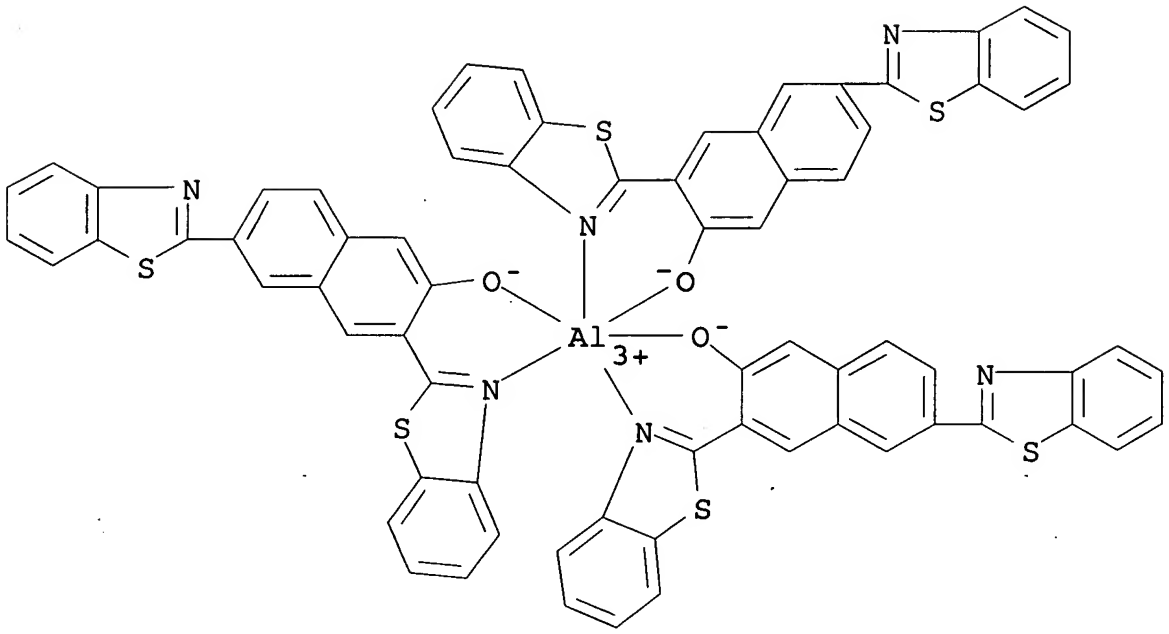
PAGE 1-A



PAGE 1-B

— OBu-n

RN 374776-69-9 HCA
CN Aluminum, tris[3-(2-benzothiazolyl-.kappa.N3)-6-(2-benzothiazolyl)-2-naphthalenolato-.kappa.O]- (9CI) (CA INDEX NAME)



IC ICM C07D263-56
ICS C07D263-60; C07D263-62; C07D277-66; C07D235-18; C07D417-10; C07D413-10; C07D413-14; C07D519-00; C07D498-04

CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 28, 41, 45, 73, 74

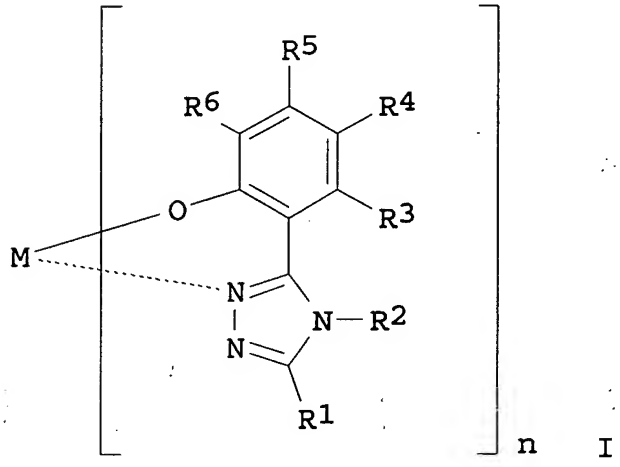
ST heterocyclylnaphthol prepn dye; arylazo heterocyclylnaphthol prepn org photoreceptor dye; metal heterocyclylnaphthol complex prepn **electroluminescence** material

IT Dyes
Electroluminescent devices
(prepn. of naphthol derivs. and metal complexes)

IT 374728-87-7P 374728-88-8P 374728-92-4P 374728-93-5P
374728-94-6P 374728-95-7P 374728-96-8P 374728-97-9P
374728-98-0P 374728-99-1P 374729-01-8P 374729-02-9P
374729-03-0P 374729-04-1P 374729-05-2P 374729-06-3P
374729-07-4P 374729-08-5P 374729-09-6P 374729-10-9P
374729-11-0P 374729-12-1P 374729-13-2P 374729-14-3P
374729-16-5P 374729-17-6P 374729-18-7P 374729-21-2P
374729-22-3P 374729-23-4P 374729-25-6P 374729-26-7P
374729-27-8P 374729-28-9P 374729-29-0P 374729-30-3P
374729-31-4P 374729-32-5P 374729-33-6P 374729-34-7P
374729-35-8P 374729-36-9P 374729-37-0P 374729-38-1P
374729-39-2P 374776-61-1P 374776-63-3P 374776-64-4P
374776-65-5P 374776-66-6P 374776-68-8P
374776-69-9P 374776-70-2P
(prepn. of naphthol derivs. and metal complexes)

L42 ANSWER 6 OF 23 HCA COPYRIGHT 2005 ACS on STN
135:280226 Organic **electroluminescent** material and device.
Tamano, Michiko (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001271063 A2 **20011002**, 16 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 2000-85502 20000327.

GI



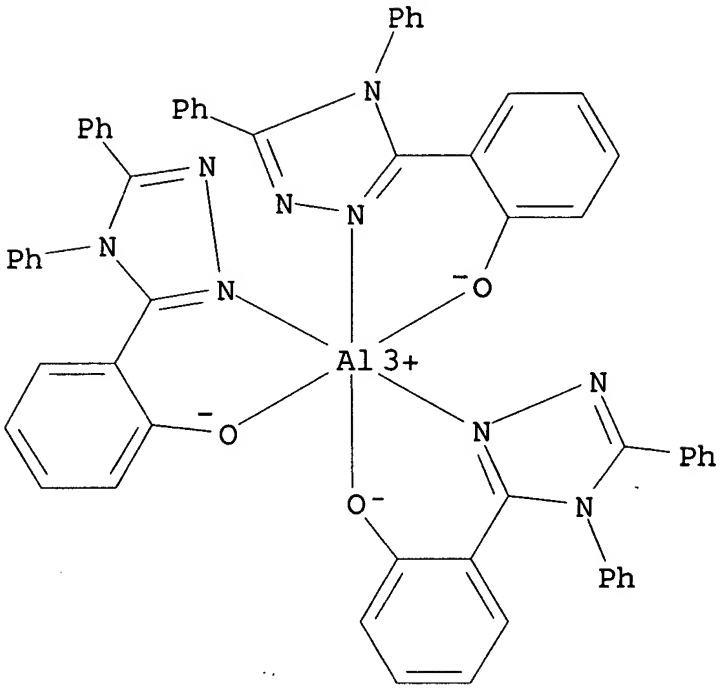
I

AB The invention refers to an **electroluminescent** material I [R1,2 = H, (un)substituted alkyl, aryl, or arom.; R3-6 = H, halo, cyano, (un)substituted alkoxy aryl, aryloxy, arom. or oxy arom., where adjacent groups may join to form a ring; M = 2 - 4 valent metal; n = 1 - 4].

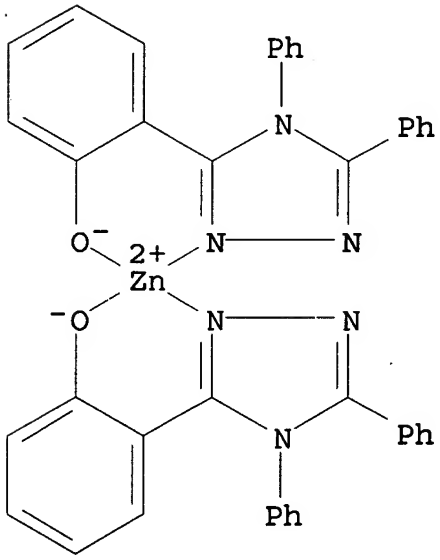
IT **226704-63-8 227314-77-4 363624-80-0 363624-86-6 363624-87-7 363624-89-9 363624-90-2 363624-91-3 363624-93-5 363624-94-6 363624-95-7 363624-96-8 363624-97-9**
(org. **electroluminescent** material and device)

RN 226704-63-8 HCA

CN Aluminum, tris[2-(4,5-diphenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)

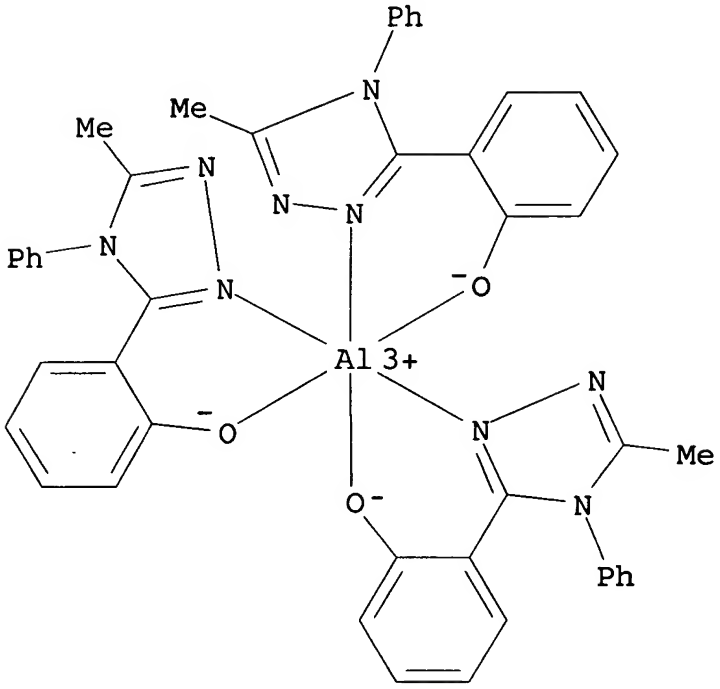


RN 227314-77-4 HCA
CN Zinc, bis[2-(4,5-diphenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

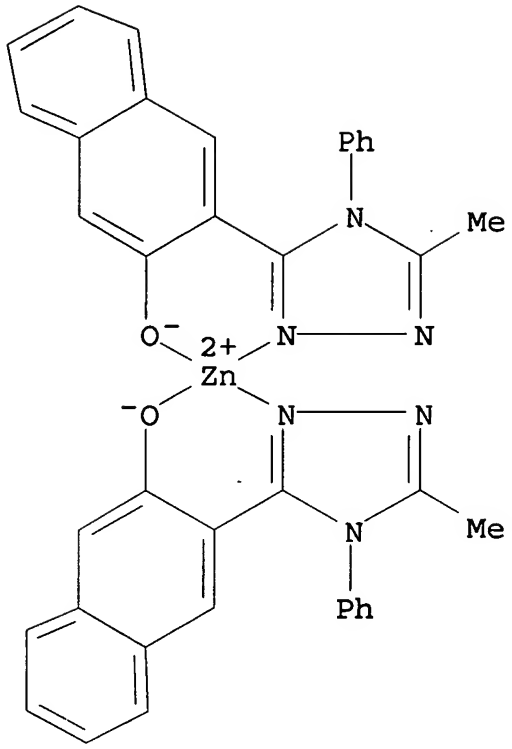


RN 363624-80-0 HCA
CN Aluminum, tris[2-(5-methyl-4-phenyl-4H-1,2,4-triazol-3-yl-

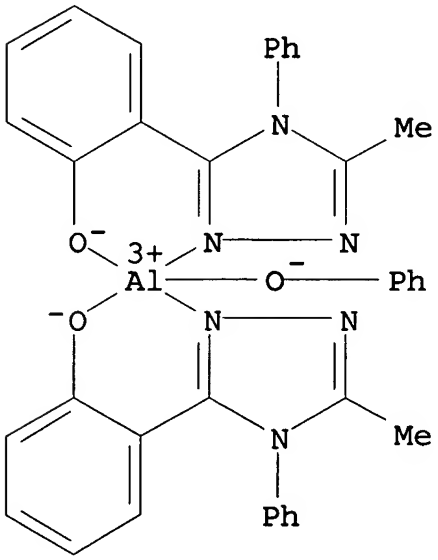
.kappa.N2)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



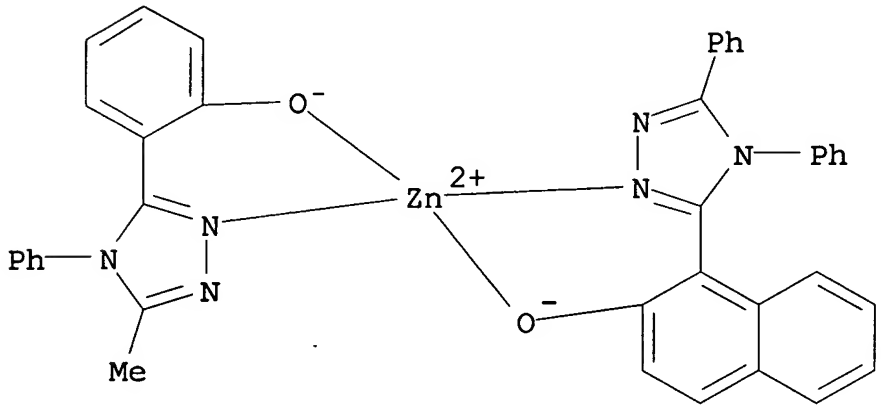
RN 363624-86-6 HCA
CN Zinc, bis[3-(5-methyl-4-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)-2-naphthalenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



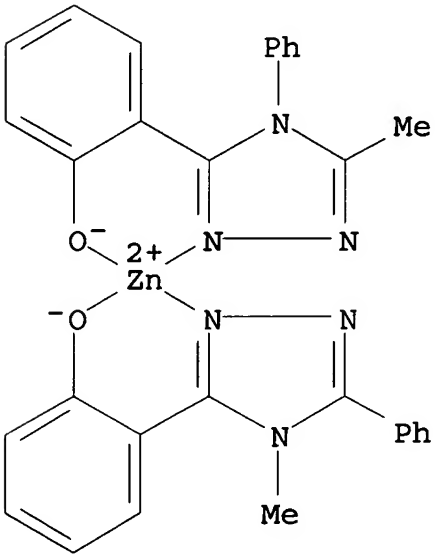
RN 363624-87-7 HCA
CN Aluminum, bis[2-(5-methyl-4-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]phenoxy- (9CI) (CA INDEX NAME)



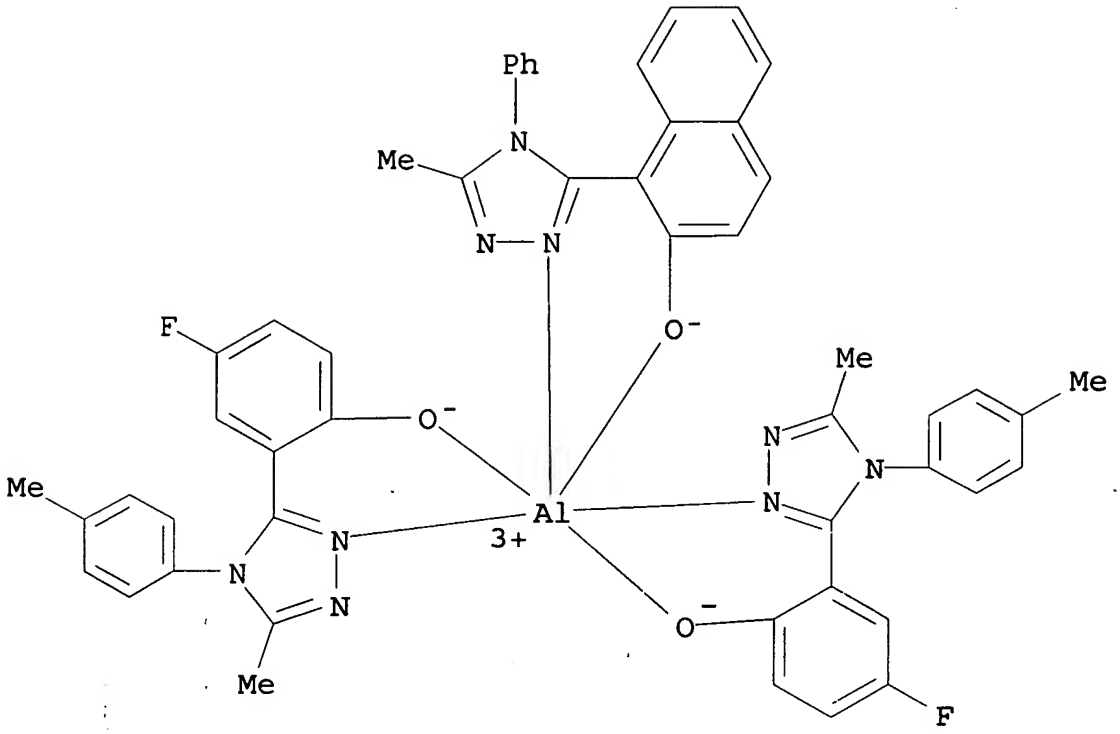
RN 363624-89-9 HCA
CN Zinc, [1-(4,5-diphenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)-2-naphthalenolato-.kappa.O][2-(5-methyl-4-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



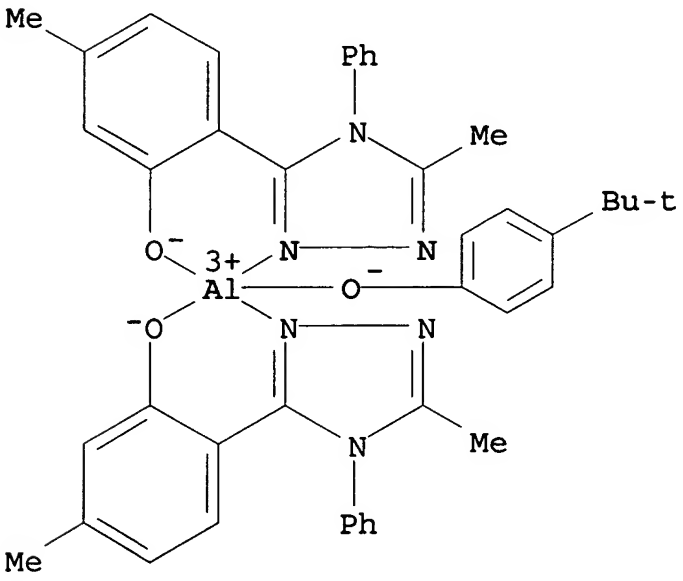
RN 363624-90-2 HCA
CN Zinc, [2-(4-methyl-5-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O][2-(5-methyl-4-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



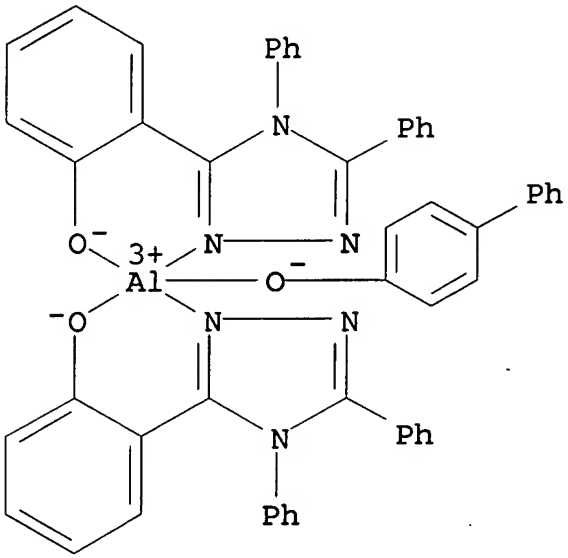
RN 363624-91-3 HCA
CN Aluminum, bis[4-fluoro-2-[5-methyl-4-(4-methylphenyl)-4H-1,2,4-triazol-3-yl-.kappa.N2]phenolato-.kappa.O][1-(5-methyl-4-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)-2-naphthalenolato-.kappa.O]- (9CI) (CA INDEX NAME)



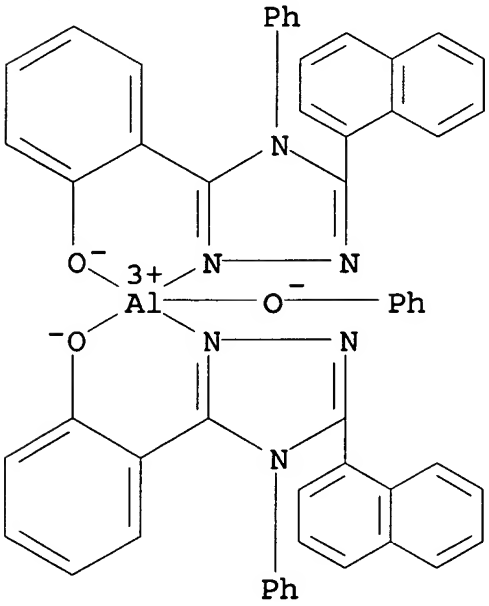
RN 363624-93-5 HCA
CN Aluminum, [4-(1,1-dimethylethyl)phenolato]bis[5-methyl-2-(5-methyl-4-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



RN 363624-94-6 HCA
CN Aluminum, [[1,1'-biphenyl]-4-olato]bis[2-(4,5-diphenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



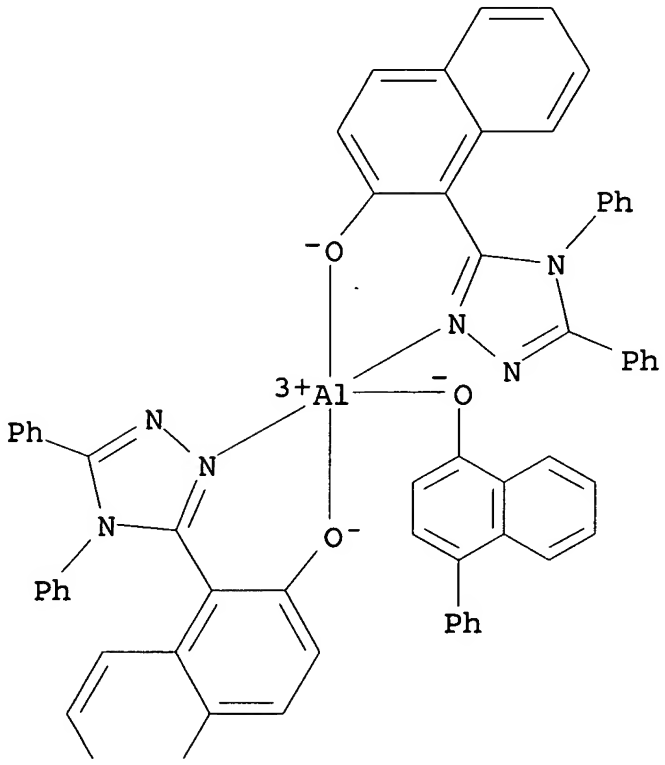
RN 363624-95-7 HCA
CN Aluminum, bis[2-[5-(1-naphthalenyl)-4-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2]phenolato-.kappa.O]phenoxy- (9CI) (CA INDEX NAME)



RN 363624-96-8 HCA

CN Aluminum, bis[1-(4,5-diphenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)-2-naphthalenolato-.kappa.O](4-phenyl-1-naphthalenolato)- (9CI) (CA INDEX NAME)

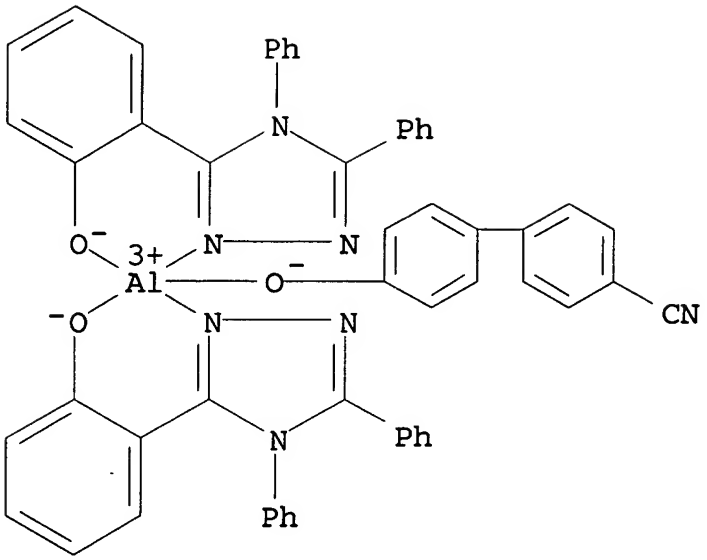
PAGE 1-A



PAGE 2-A

RN 363624-97-9 HCA

CN Aluminum, bis[2-(4,5-diphenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O][4'-(hydroxy-.kappa.O)[1,1'-biphenyl]-4-carbonitrilato]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST **electroluminescent** device
IT **Electroluminescent** devices
(org. **electroluminescent** material and device)
IT 147-14-8, Copper phthalocyanine 517-51-1, Rubrene 1047-16-1, Quinacridone 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 12798-95-7 37271-44-6 50926-11-9, ITO 65181-78-4, TPD 123847-85-8, .alpha.-NPD 124729-98-2 188049-36-7 **226704-63-8 227314-77-4 363624-80-0** 363624-81-1 363624-82-2 363624-83-3 363624-85-5 **363624-86-6 363624-87-7** 363624-88-8 **363624-89-9 363624-90-2 363624-91-3 363624-93-5 363624-94-6 363624-95-7 363624-96-8 363624-97-9**
(org. **electroluminescent** material and device)

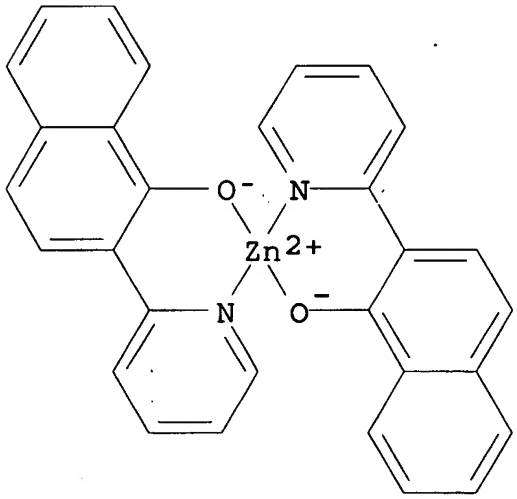
L42 ANSWER 7 OF 23 HCA COPYRIGHT 2005 ACS on STN
134:107714 Organic **electroluminescent** element. Ueda, Noriko; Suzuri, Yoshiyuki; Yamada, Taketoshi; Kita, Hiroshi (Konica Corporation, Japan). Eur. Pat. Appl. EP 1067165 A2 **20010110**, 93 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-114436 20000705. PRIORITY: JP 1999-190287 19990705.
AB Org. **electroluminescent** elements comprising a

light emitting layer comprised of .gtoreq.1 thin layers of an org. compd. put between an anode and a cathode are described in which .gtoreq.1 org. compd. thin layer contains an organometallic complex having both an ionic coordinate bond formed by a nitrogen anion (e.g., included in an arom. heterocyclic ring) and a metal cation and a coordinate bond formed between a nitrogen atom or a chalcogen and a metal. The metal cation of the org. metal complex may be selected from Al, Ga, In, TI, Be, Mg, Sr, Ba, Ca, Zn, Cd, Hg, Pd, or Cu.

IT **193622-12-7 318989-58-1 318989-59-2**
(org. **electroluminescent** elements using organometallic compd. emitting materials)

RN 193622-12-7 HCA

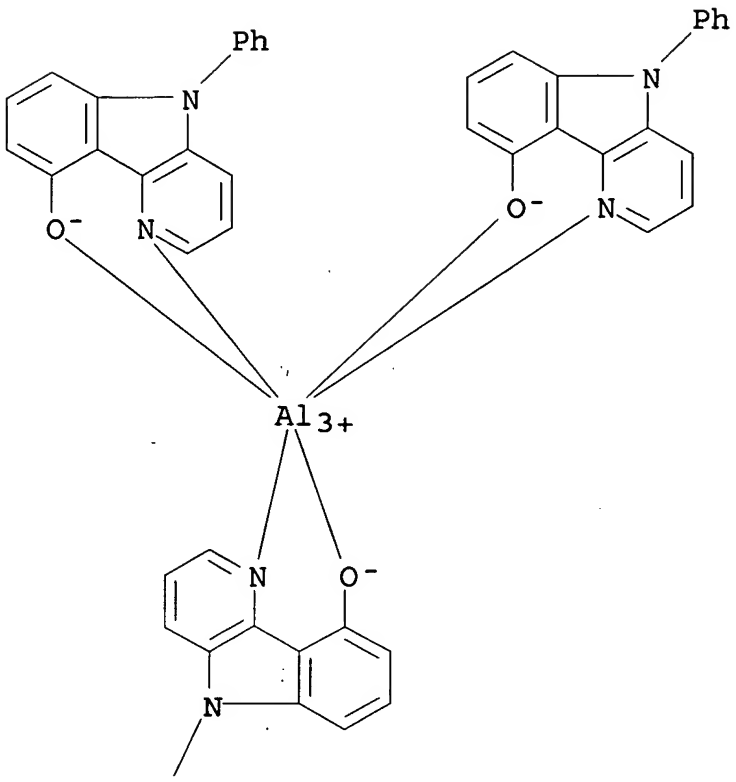
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)-1-naphthalenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 318989-58-1 HCA

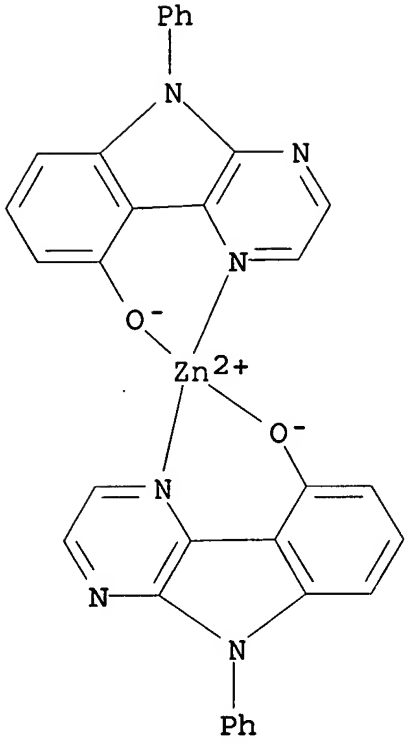
CN Aluminum, tris(5-phenyl-5H-pyrido[3,2-b]indol-9-olato-.kappa.N1,.kappa.O9)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

RN 318989-59-2 HCA
CN Zinc, bis(5-phenyl-5H-pyrazino[2,3-b]indol-9-olato-.kappa.N1,.kappa.O9)-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78

ST **electroluminescent** device organometallic complex

IT Phosphors
(**electroluminescent**; org. **electroluminescent** elements using organometallic compd. emitting materials)

IT **Electroluminescent** devices
(org. **electroluminescent** elements using organometallic compd. emitting materials)

IT 7429-90-5D, Aluminum, nitrogen heterocyclic ligand complexes, uses 7439-95-4D, Magnesium, organometallic compds., uses 7439-97-6D, Mercury, organometallic compds., uses 7440-05-3D, Palladium, organometallic compds., uses 7440-24-6D, Strontium, organometallic compds., uses 7440-28-0D, Thallium, organometallic compds., uses 7440-39-3D, Barium, organometallic compds., uses 7440-41-7D, Beryllium, nitrogen heterocyclic ligand complexes, uses 7440-43-9D, Cadmium, organometallic compds., uses 7440-50-8D, Copper, organometallic compds., uses 7440-55-3D, Gallium, nitrogen heterocyclic ligand complexes, uses 7440-66-6D, Zinc, nitrogen heterocyclic ligand complexes, uses 7440-70-2D, Calcium,

organometallic compds., uses 7440-74-6D, Indium, organometallic compds., uses 129227-36-7D, gallium complex **193622-12-7** 318988-63-5D, aluminum and gallium complexes 318988-64-6D, zinc complex 318988-65-7D, beryllium complex 318988-66-8D, aluminum and gallium complexes 318988-67-9D, aluminum complex 318988-68-0D, gallium complex 318988-69-1 318988-70-4 318988-71-5 318988-72-6 318988-73-7 318988-74-8 318988-75-9 318988-76-0 318988-77-1 318988-78-2 318988-79-3 318988-80-6 318988-81-7 318988-82-8 318988-83-9 318988-84-0 318988-85-1 318988-86-2 318988-87-3 318988-88-4 318988-89-5 318988-90-8 318988-91-9 318988-92-0 318988-93-1 318988-94-2 318988-95-3D, deriv., beryllium complex 318988-96-4 318988-97-5D, aluminum complex 318988-97-5D, beryllium complex 318988-98-6D, aluminum complex 318988-99-7D, aluminum complex 318989-00-3D, zinc complex 318989-01-4D, gallium complex 318989-02-5 318989-03-6 318989-04-7 318989-05-8 318989-06-9D, aluminum complex 318989-07-0D, zinc complex 318989-08-1D, beryllium complex 318989-09-2D, gallium complex 318989-10-5D, aluminum complex 318989-11-6D, zinc complex 318989-12-7 318989-13-8 318989-14-9 318989-15-0 318989-16-1 318989-17-2 318989-18-3 318989-19-4 318989-20-7 318989-22-9 318989-23-0 318989-24-1 318989-25-2 318989-26-3 318989-27-4 318989-28-5 318989-29-6 318989-30-9 318989-31-0D, beryllium complex 318989-32-1 318989-33-2D, aluminum and gallium complexes 318989-34-3 318989-35-4 318989-36-5 318989-37-6 318989-38-7 318989-39-8 318989-40-1 318989-41-2 318989-42-3 318989-43-4 318989-44-5 318989-45-6 318989-46-7 318989-47-8 318989-48-9 318989-49-0 318989-50-3 318989-51-4 318989-52-5 318989-53-6 318989-54-7 318989-55-8 318989-56-9 318989-57-0 **318989-58-1 318989-59-2** 318989-60-5 318989-61-6 318989-62-7 318989-63-8 318989-64-9 318989-65-0 318989-66-1 318989-67-2
(org. **electroluminescent** elements using organometallic compd. emitting materials)

IT 183021-20-7DP, aluminum and gallium complexes
(org. **electroluminescent** elements using organometallic compd. emitting materials)

IT 555-31-7, Aluminum isopropoxide 183021-20-7
(org. **electroluminescent** elements using organometallic compd. emitting materials)

L42 ANSWER 8 OF 23 HCA COPYRIGHT 2005 ACS on STN

134:93076 Material developments and light control in organic **light-emitting** diode. Tokito, Shizuo; Taga, Yasunori (TOYOTA Central Research & Development Laboratories, INC., Nagakute, 480-1192, Japan). Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals, 349, 389-394 (English) **2000**. CODEN: MCLCE9.

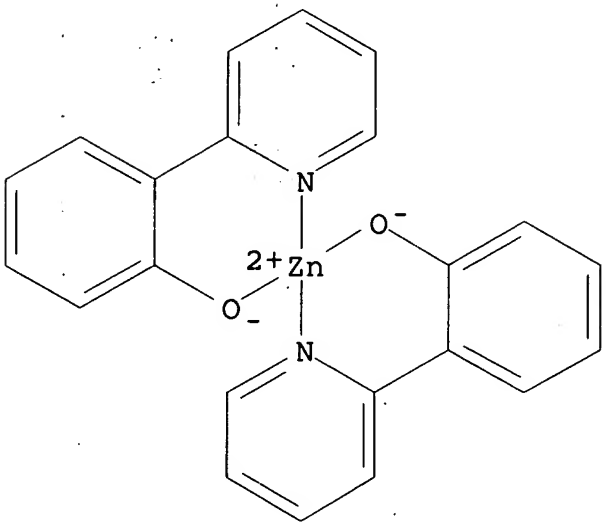
ISSN: 1058-725X. Publisher: Gordon & Breach Science Publishers.

AB The authors report the influence of org. materials on the thermal stability and emission efficiency of org. **light-emitting** diode (**OLED**). To improve the device performance several hole transporting materials and emitting materials were developed based on triphenylamine and metal-chelate complex, resp. The **electroluminescent** characteristics of the OLEDs are shown and discussed in view of properties of the materials. Control of **light emission** in the **OLED** with microcavity is presented to suggest a new application.

IT **193622-08-1 208187-79-5 213818-07-6 213818-08-7 214075-03-3**
(material developments and light control in org. **light-emitting** diode)

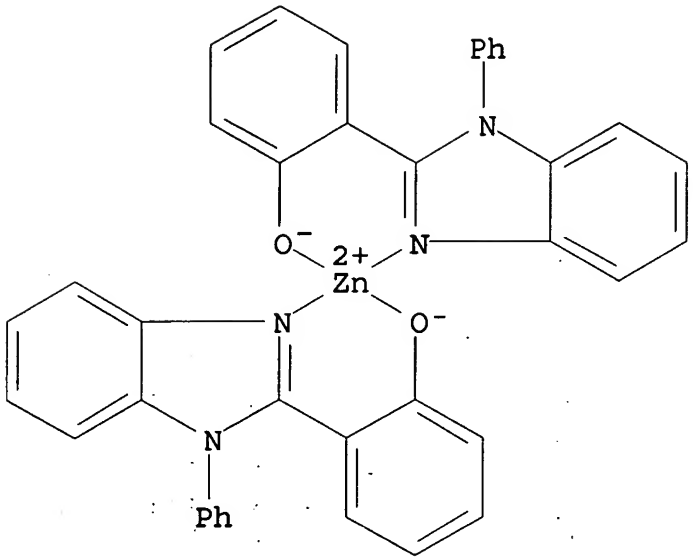
RN 193622-08-1 HCA

CN Zinc, bis[2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

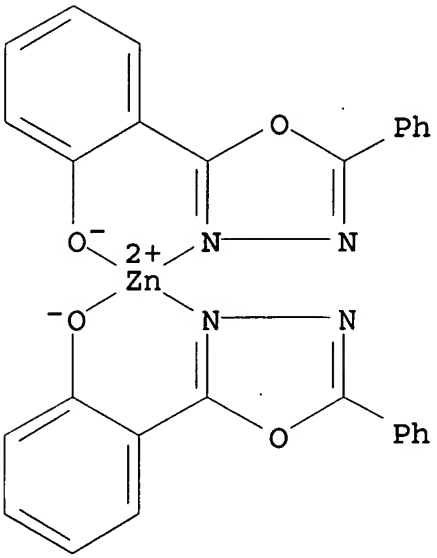


RN 208187-79-5 HCA

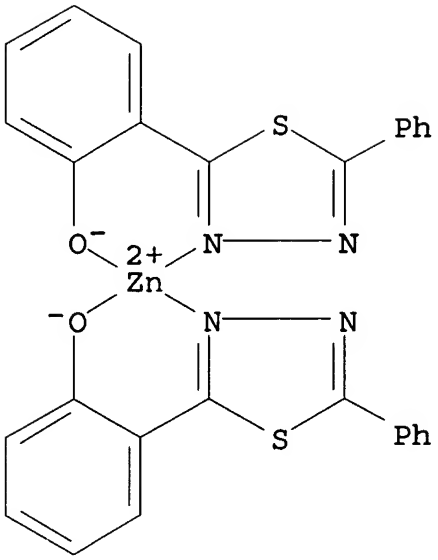
CN Zinc, bis[2-(1-phenyl-1H-benzimidazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



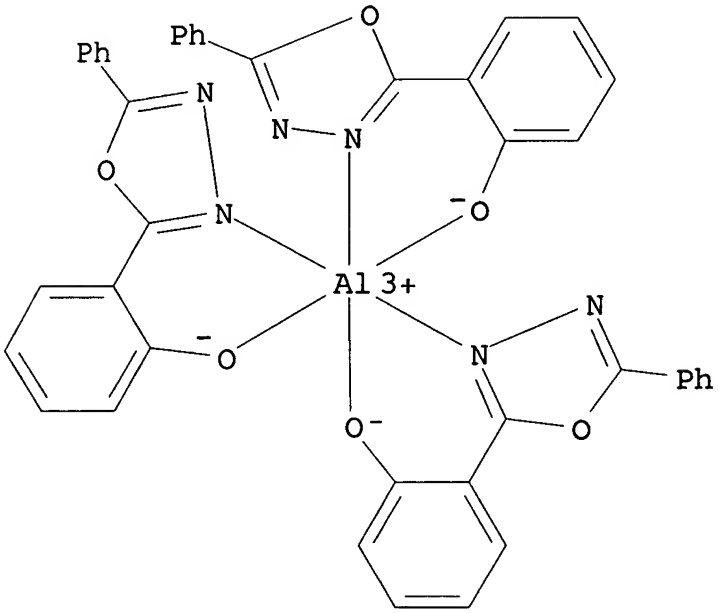
RN 213818-07-6 HCA
CN Zinc, bis[2-(5-phenyl-1,3,4-oxadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 213818-08-7 HCA
CN Zinc, bis[2-(5-phenyl-1,3,4-thiadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



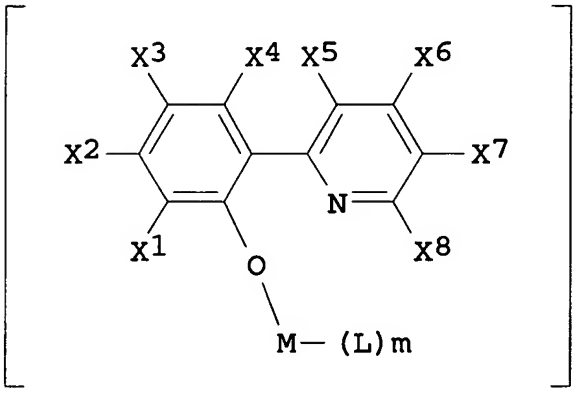
RN 214075-03-3 HCA
CN Aluminum, tris[2-(5-phenyl-1,3,4-oxadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (OC-6-22)- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 76
ST **light emitting** diode triphenylamine thermal

stability
IT **Electroluminescent** devices
(material developments and light control in org. **light-emitting** diode)
IT Thermal stability
(material developments and light control in org. **light-emitting** diode in relation to)
IT Luminescence, **electroluminescence**
(of various zinc complex materials for org. **light-emitting** diode)
IT 2085-33-8, Alq3 65181-78-4, TPD 105766-30-1 182069-71-2 189196-95-0 **193622-08-1 208187-79-5 213818-07-6 213818-08-7 214075-03-3**
(material developments and light control in org. **light-emitting** diode)

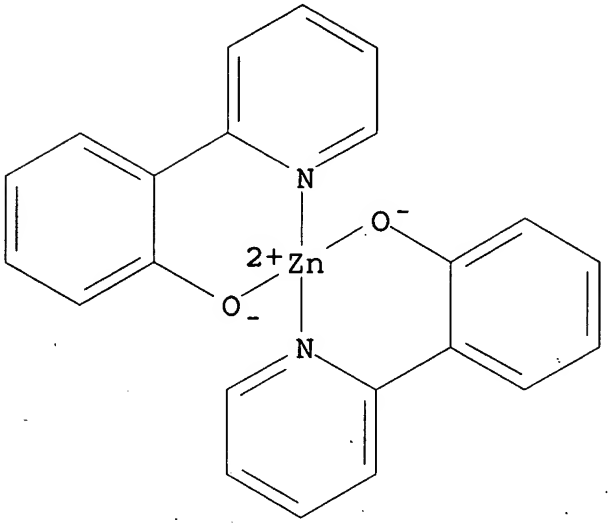
L42 ANSWER 9 OF 23 HCA COPYRIGHT 2005 ACS on STN
134:63622 Organic **electroluminescent** devices. Tanaka, Hiromitsu; Mohri, Makoto; Takeuchi, Hisato; Watanabe, Osamu; Mori, Tomohiko; Tokito, Seiji (Toyota Central Research and Development Laboratories, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2000357588 A2 **20001226**, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-165944 19990611.
GI



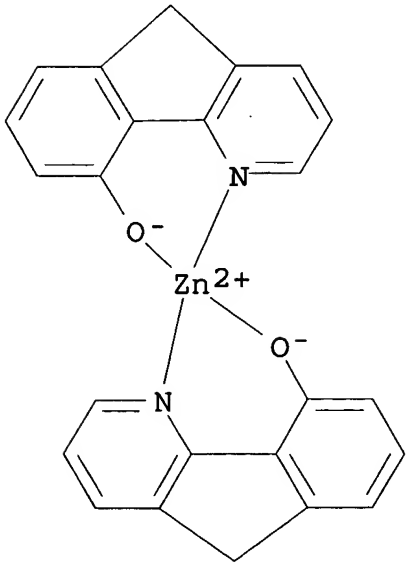
I

AB The devices comprise a phosphor I (M = coordinate metal; l = no. of pyridylphenol ligand; L = auxiliary ligand; m = no. of auxiliary ligand).
IT **193622-08-1 314044-69-4 314044-70-7 314044-71-8**
(org. **electroluminescent** devices)
RN 193622-08-1 HCA

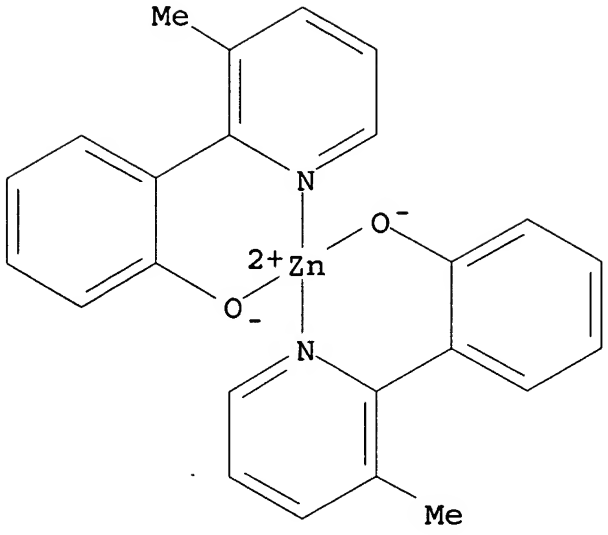
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



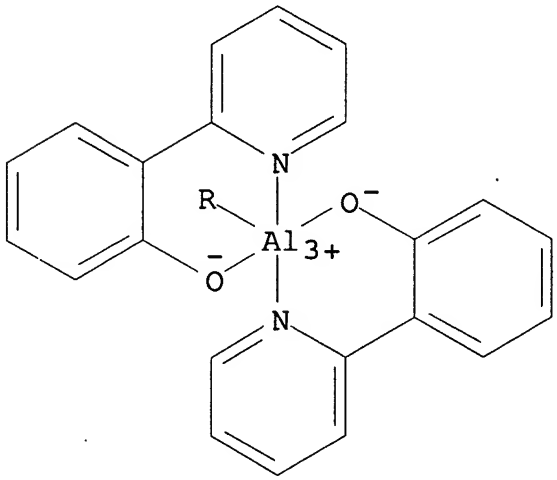
RN 314044-69-4 HCA
CN Zinc, bis(5H-indeno[1,2-b]pyridin-9-olato-.kappa.N1,.kappa.O9)-, (T-4)- (9CI) (CA INDEX NAME)

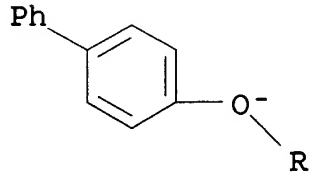


RN 314044-70-7 HCA
CN Zinc, bis[2-(3-methyl-2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 314044-71-8 HCA
CN Aluminum, ([1,1'-biphenyl]-4-olato)bis[2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)

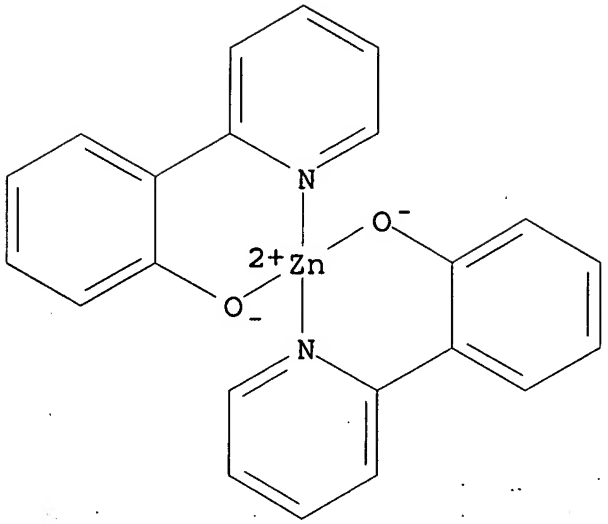




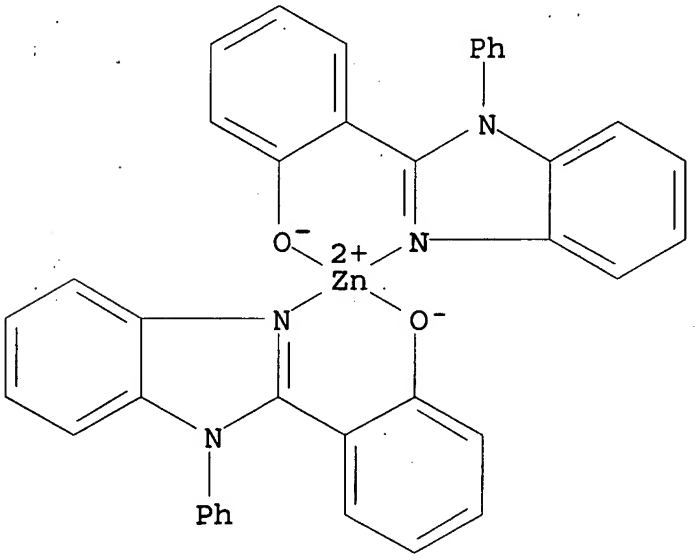
IC ICM H05B033-14

ICS C07D213-84; C07D221-16; C09K011-06; C07D213-30; C07F003-00; C07F003-06; C07F005-06; C07F007-30
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** prydylphenol zinc coordination phosphor; aluminum prydylphenol coordination phosphor **electroluminescent**
IT Electrodes
Glass substrates
Luminescent substances
Phosphors
Thermal resistance
(**org. electroluminescent** devices)
IT Coordination compounds
Ligands
(org. **electroluminescent** devices)
IT 7439-95-4, Magnesium, uses 7440-22-4, Silver, uses 50926-11-9, ITO 65181-78-4, TPD **193622-08-1 314044-69-4 314044-70-7 314044-71-8**
(org. **electroluminescent** devices)

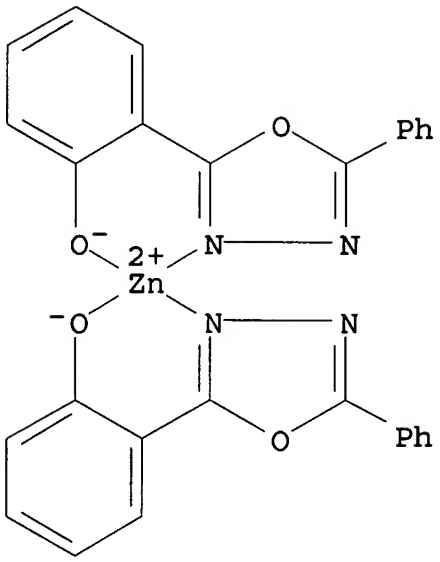
L42 ANSWER 10 OF 23 HCA COPYRIGHT 2005 ACS on STN
133:142403 Organic **light-emitting** diodes using novel metal-chelate complexes. Tokito, S.; Noda, K.; Tanaka, H.; Taga, Y.; Tsutsui, T. (TOYOTA Central Research and Development Laboratories Inc., Nagakute, Aichi, 480-1192, Japan). Synthetic Metals, 111-112, 393-396 (English) **2000.** CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science S.A..
AB **Electroluminescent** (**EL**) properties of novel metal-chelate complexes were studied in the org. **light-emitting** diodes (OLEDs) comprised of the hole transport layer (HTL) and emitting layer (EML). The metal-chelate complexes have either polycyclic arom. or fused ring ligands, which coordinate to Zn or Al. Various **EL** emission colors over the range of blue to yellow were obtained. The OLEDs using the complexes with polycyclic arom. ligands showed desirable blue emission with a quantum efficiency of 1.5-1.7% at a luminance of 300 cd/m2 and CIE color coordinates of around (0.17, 0.16). By perylene-doping into the blue-emitting complex, the improvement of **EL** efficiency was obsd. However, the complex with fused ring ligands gave a quantum efficiency of 0.8% at yellow emission.
IT **193622-08-1 208187-79-5 213818-07-6 213818-08-7 214075-03-3**
(org. **light-emitting** diodes using novel metal-chelate complexes)
RN 193622-08-1 HCA
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



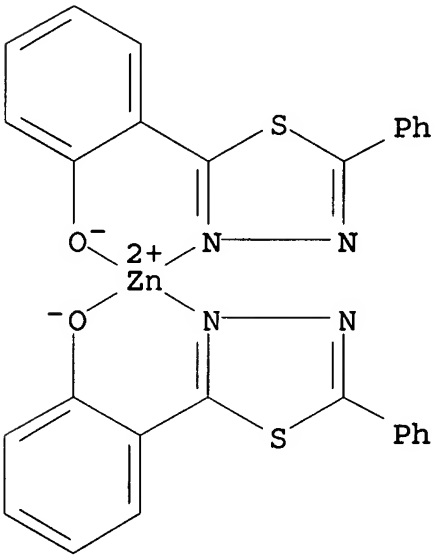
RN 208187-79-5 HCA
CN Zinc, bis[2-(1-phenyl-1H-benzimidazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



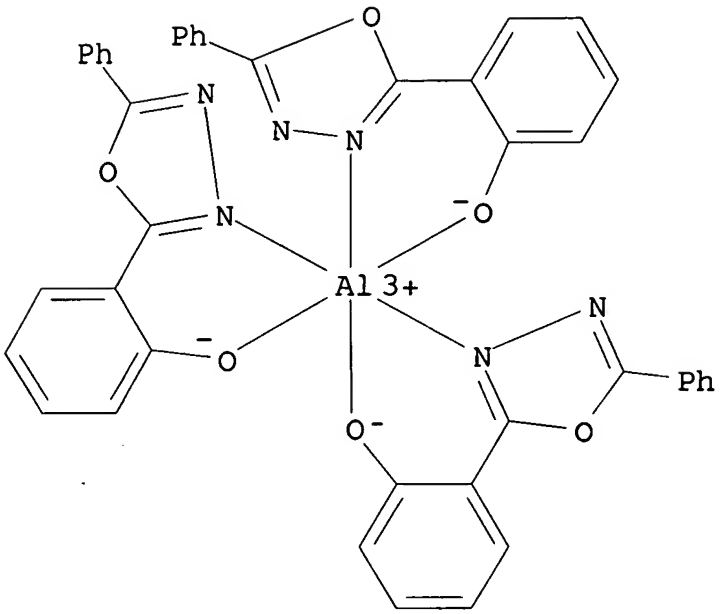
RN 213818-07-6 HCA
CN Zinc, bis[2-(5-phenyl-1,3,4-oxadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 213818-08-7 HCA
CN Zinc, bis[2-(5-phenyl-1,3,4-thiadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 214075-03-3 HCA
CN Aluminum, tris[2-(5-phenyl-1,3,4-oxadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (OC-6-22)- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

IT Electric current-potential relationship
Electroluminescent devices
Hole transport
(org. **light-emitting** diodes using novel metal-chelate complexes)

IT **193622-08-1 208187-79-5** 213620-77-0
213818-07-6 213818-08-7 214075-03-3
(org. **light-emitting** diodes using novel metal-chelate complexes)

IT 198-55-0, Perylene
(org. **light-emitting** diodes using novel metal-chelate complexes)

L42 ANSWER 11 OF 23 HCA COPYRIGHT 2005 ACS on STN
133:81414 Organometallic complexes for use in **light emitting** devices. Shi, Song Q. (Motorola, Inc., USA). U.S. US 6083634 A **20000704**, 16 pp., Cont.-in-part of U.S. Ser. No. 304,451. (English). CODEN: USXXAM. APPLICATION: US 1997-886553 19970811. PRIORITY: US 1994-304451 19940912.

GI

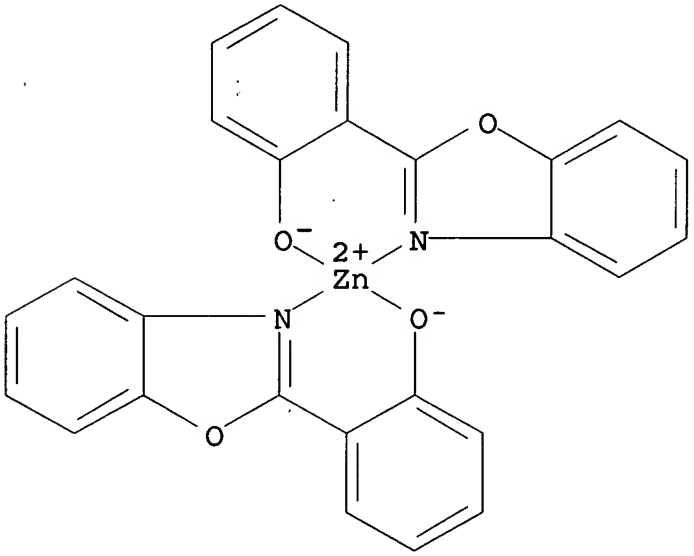
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Org. **light-emitting** devices are described which comprise a layer of organometallic emissive material described by the general formulas I or II (M2 = divalent metal; M3 = trivalent metal; X = S, NH, or CH2; R1-8 and L1-5 = H or hydrocarbon groups or functional groups selected from cyano, halogen, haloalkyl, haloalkoxy, alkoxyl, amido, amino, sulfonyl, carbonyl, carbonyloxy and oxycarbonyl). Methods of fabricating the devices entailing the deposition of the emissive materials are also described. Examples in which X = O are also presented.

IT **23467-27-8**
(**light-emitting** devices using organometallic complexes and their fabrication)

RN 23467-27-8 HCA

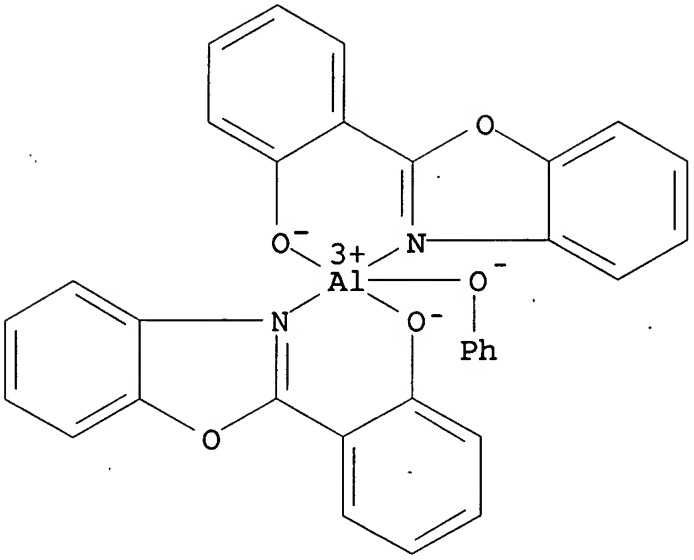
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



IT **176045-96-8P**
(**light-emitting** devices using organometallic complexes and their fabrication)

RN 176045-96-8 HCA

CN Aluminum, bis[2-(2-benzoxazolyl-.kappa.N3)phenolato-.kappa.O]phenoxy- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
INCL 428690000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78
ST organometallic complex **light emitting** device; oxyphenylbenzimidazole complex **light emitting** device; oxyphenylindole complex **light emitting** device; oxyphenylbenzothiazole complex **light emitting** device
IT **Electroluminescent** devices
Electroluminescent devices
Semiconductor device fabrication
(**light-emitting** devices using organometallic complexes and their fabrication)
IT 7429-90-5D, Aluminum, organometallic compds., uses 7439-95-4D, Magnesium, organometallic compds., uses 7440-41-7D, Beryllium, organometallic compds., uses 7440-55-3D, Gallium, organometallic compds., uses 7440-66-6D, Zinc, organometallic compds., uses 7440-74-6D, Indium, organometallic compds., uses **23467-27-8**
(**light-emitting** devices using organometallic complexes and their fabrication)
IT 128904-10-9P **176045-96-8P**
(**light-emitting** devices using organometallic complexes and their fabrication)
IT 108-95-2, Phenol, reactions 835-64-3, 2-(2-Hydroxyphenyl) benzoxazole 7446-70-0, Aluminum chloride, reactions 13510-49-1, Beryllium sulfate

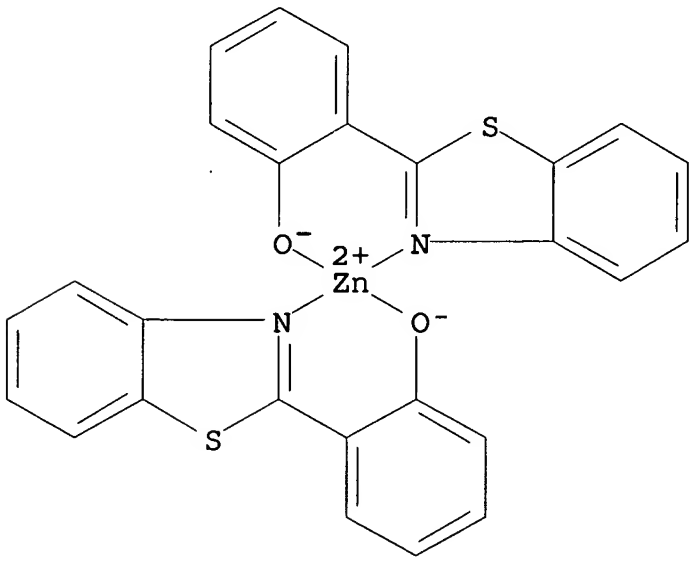
(**light-emitting** devices using organometallic complexes and their fabrication)

L42 ANSWER 12 OF 23 HCA COPYRIGHT 2005 ACS on STN
132:173455 Full color optical printer head made of organic **electroluminescent** device. Tsuruoka, Sigehisa; Fukuda, Tatsuo; Shimizu, Yukihiko; Kobori, Yoichi (Futaba Denshi Kogyo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000052591 A2 **20000222**, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-227218 19980811.

AB The full color optical printer head made of an org. **electroluminescent** device forms an image with lights from the org. **electroluminescent** device, wherein the org. **electroluminescent** device has emission in 450-650 nm range. The printer head is small and light and requires a little power consumption and provides the stable operation.

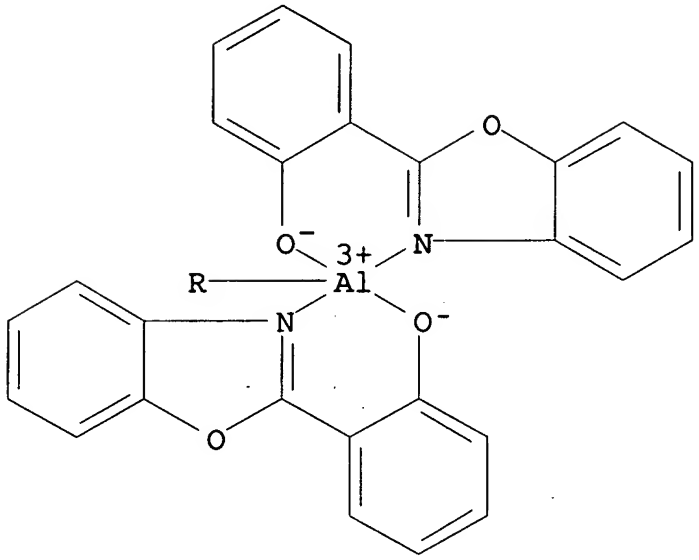
IT **58280-31-2 203518-71-2**
(org. **electroluminescent** device of full color optical printer head)

RN 58280-31-2 HCA
CN Zinc, bis[2-(2-benzothiazolyl-.kappa.N3)phenolato-.kappa.O]-, (T-4)-(9CI) (CA INDEX NAME)

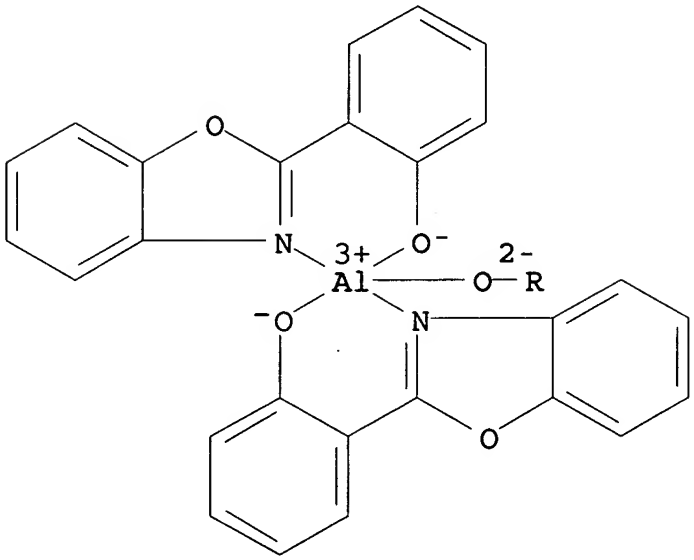


RN 203518-71-2 HCA
CN Aluminum, tetrakis[2-(2-benzoxazolyl-.kappa.N3)phenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM B41J002-44
ICS B41J002-45; B41J002-455; C09K011-06; H01L033-00; H04N001-036; H05B033-12; H05B033-14

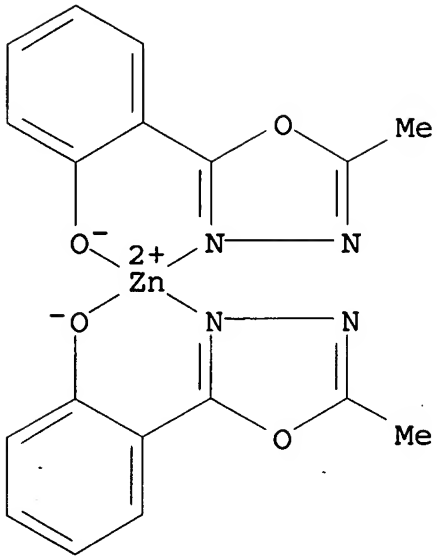
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and

Other Reprographic Processes)
Section cross-reference(s): 73
ST optical printer head **electroluminescent** device
IT **Electroluminescent** devices
Optical imaging devices
Recording apparatus
(full color optical printer head made of org. **electroluminescent** device)
IT 517-51-1 2085-33-8 6543-20-0 25067-59-8 **58280-31-2**
65181-78-4 163226-12-8 **203518-71-2** 258849-77-3
(org. **electroluminescent** device of full color optical printer head)

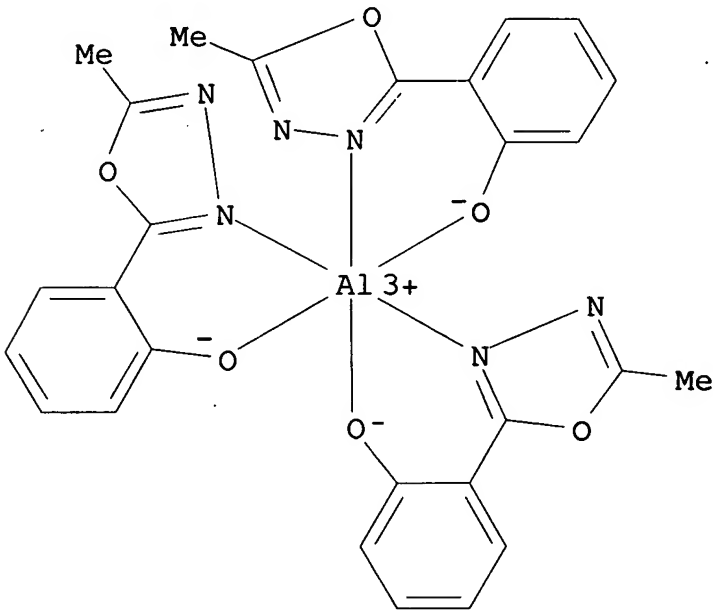
L42 ANSWER 13 OF 23 HCA COPYRIGHT 2005 ACS on STN
132:129800 Metal complexes and blue-emitting **electroluminescent** materials and devices using them. Igarashi, Tatsuya (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000026472 A2 **20000125**, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-198940 19980714.
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

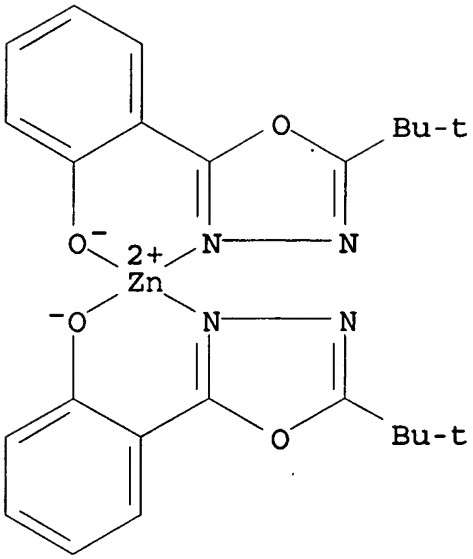
AB The metal complexes are prepd. from oxadiazoles or thiadiazoles I (R1 = H, alkyl, alkenyl, alkynyl, heterocyclic group; X = O, S; M1 = H, cation; Z1 = at. group required to form 5- or 6-membered ring). The materials contain (A) the metal complexes, (B) II (R2 = alkyl; M2 = divalent or trivalent metal ion; Z2 = at. group required to form 5- or 6-membered ring; L2 = ligand; n2 = 1-4; m2 = 0-4), or (C) III (R3 = alkyl; M3 = divalent or trivalent metal ion; L3 = ligand; n3 = 1-4; m3 = 0-4; R31-R34 = H, substituent). The devices using .gtoreq.1 of the materials are also claimed. The metal complexes shows **light-emitting** and **electron-transporting** properties. The devices give blue luminescence with high color purity.
IT **256388-80-4P 256388-81-5P 256388-82-6P**
(oxadiazole- or thiadiazole-contg. metal complexes for blue-emitting **electroluminescent** devices)
RN 256388-80-4 HCA
CN Zinc, bis[2-(5-methyl-1,3,4-oxadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 256388-81-5 HCA
CN Aluminum, tris[2-(5-methyl-1,3,4-oxadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



RN 256388-82-6 HCA
CN Zinc, bis[2-[5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2-yl-.kappa.N3]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM C07F003-06
ICS C07F005-06; C09K011-06; H05B033-14; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
ST metal complex blue emitting **electroluminescent** device; oxadiazole metal complex **electroluminescent** device; thiadiazole metal complex **electroluminescent** device; **electron transporting** metal complex **electroluminescent** device
IT **Electroluminescent** devices
(blue-emitting; oxadiazole- or thiadiazole-contg. metal complexes for blue-emitting **electroluminescent** devices)
IT **256388-80-4P 256388-81-5P 256388-82-6P**
(oxadiazole- or thiadiazole-contg. metal complexes for blue-emitting **electroluminescent** devices)
IT 18233-19-7P 256371-17-2P
(oxadiazole- or thiadiazole-contg. metal complexes for blue-emitting **electroluminescent** devices)
IT 555-31-7, Aluminum triisopropoxide 557-34-6, Zinc diacetate 936-02-7, Salicyl hydrazide 14777-29-8 68283-70-5
(oxadiazole- or thiadiazole-contg. metal complexes for blue-emitting **electroluminescent** devices)

L42 ANSWER 14 OF 23 HCA COPYRIGHT 2005 ACS on STN
131:51807 Organic **electroluminescent** material for **electroluminescent** device. Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11144872 A2 **19990528** Heisei, 16 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1997-308965 19971111.

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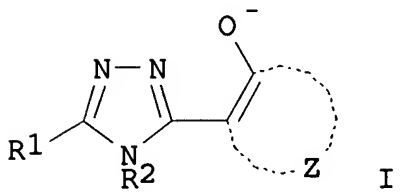


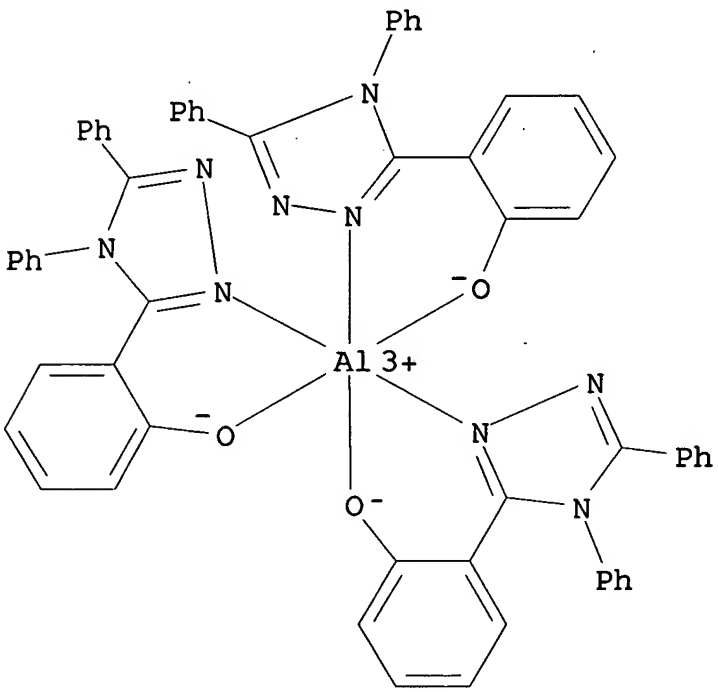
I

AB An org. **electroluminescent** material is a metal complex synthesized from a metal ion, such as Be2+, Mg2+, etc., and a compd. represented by I [R1 = H or org. group; R2 = H, aliph. hydrocarbon, aryl and heterocyclic groups; and Z presents atoms forming 5 or 6 member rings].

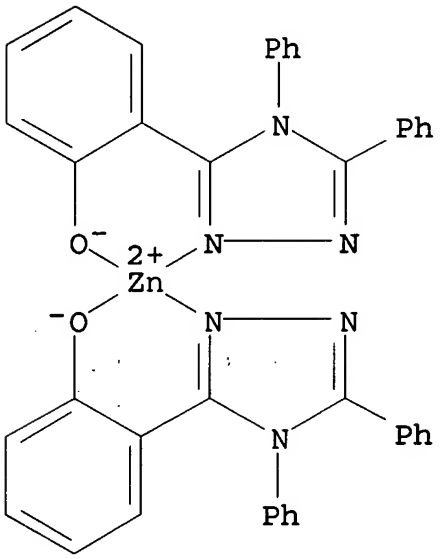
IT **226704-63-8 227314-77-4 227315-55-1 227317-57-9**
(org. **electroluminescent** material for **electroluminescent** device)

RN 226704-63-8 HCA

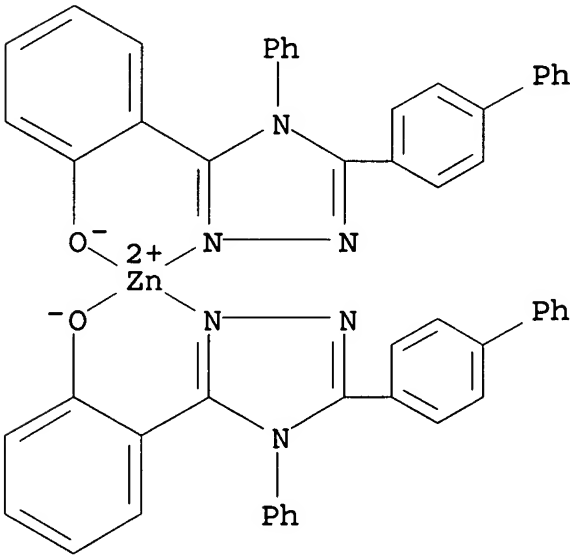
CN Aluminum, tris[2-(4,5-diphenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



RN 227314-77-4 HCA
CN Zinc, bis[2-(4,5-diphenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

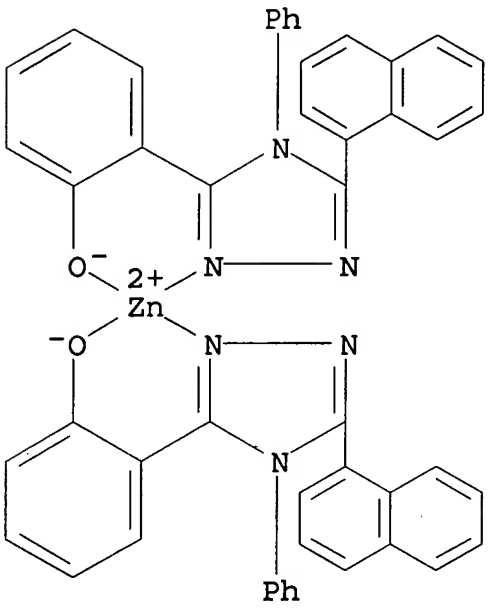


RN 227315-55-1 HCA
CN Zinc, bis[2-(5-[1,1'-biphenyl]-4-yl-4-phenyl-4H-1,2,4-triazol-3-yl-.kappa.N2)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 227317-57-9 HCA
CN Zinc, bis[2-[5-(1-naphthalenyl)-4-phenyl-4H-1,2,4-triazol-3-yl-

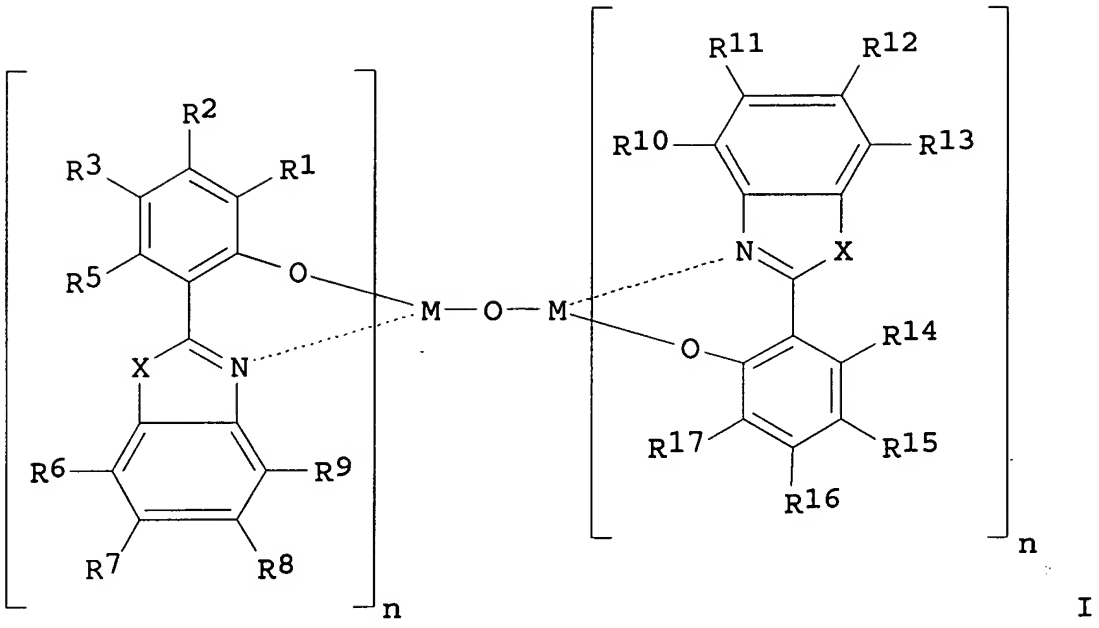
.kappa.N2]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device metal complex triazole
IT Phosphors
(**electroluminescent**; org. **electroluminescent** material for **electroluminescent** device)
IT **Electroluminescent** devices
(org. **electroluminescent** material for **electroluminescent** device)
IT Coordination compounds
(org. **electroluminescent** material for **electroluminescent** device)
IT **226704-63-8 227314-77-4 227315-55-1 227317-57-9** 227323-11-7 227323-92-4
(org. **electroluminescent** material for **electroluminescent** device)

L42 ANSWER 15 OF 23 HCA COPYRIGHT 2005 ACS on STN
130:45102 Organic **electroluminescent** materials and organic **electroluminescent** devices using them. Tamano, Michiko; Onikubo, Shunichi; Okutsu, Satoshi; Enokida, Toshio (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10298545 A2 **19981110** Heisei, 17 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1997-112087 19970430.

GI



I

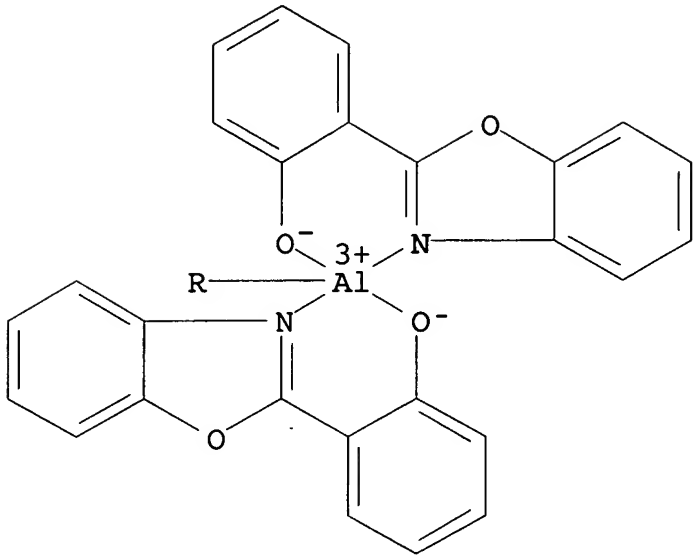
AB The material has a formula I (X = S, O, CH2; R1-17 = H, halogen, cyano, alkyl, alkoxy, aryl, aryloxy, NH2, heterocyclic; R1-17 may bond to form a ring; M = divalent or trivalent metal atom; n = 1, 2). The device shows high luminance and excellent stability in repeated use.

IT **203518-71-2 216884-51-4 216884-52-5**
216884-53-6 216884-55-8 216884-57-0
216884-58-1 216884-59-2 216884-61-6
216884-62-7 216884-64-9 216969-43-6
(org. **electroluminescent** devices contg. metal chelate complexes)

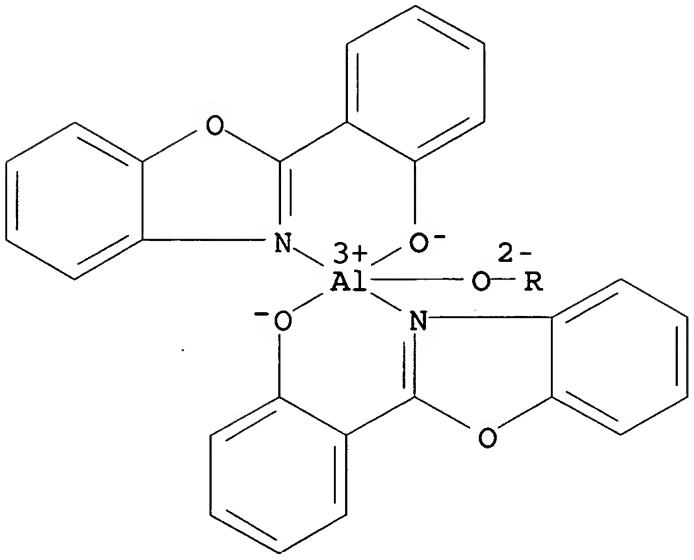
RN 203518-71-2 HCA

CN Aluminum, tetrakis[2-(2-benzoxazolyl-.kappa.N3)phenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A

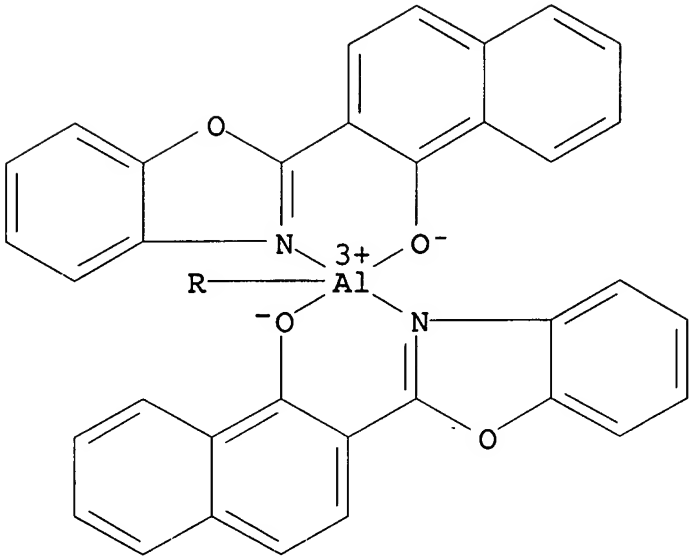


PAGE 2-A

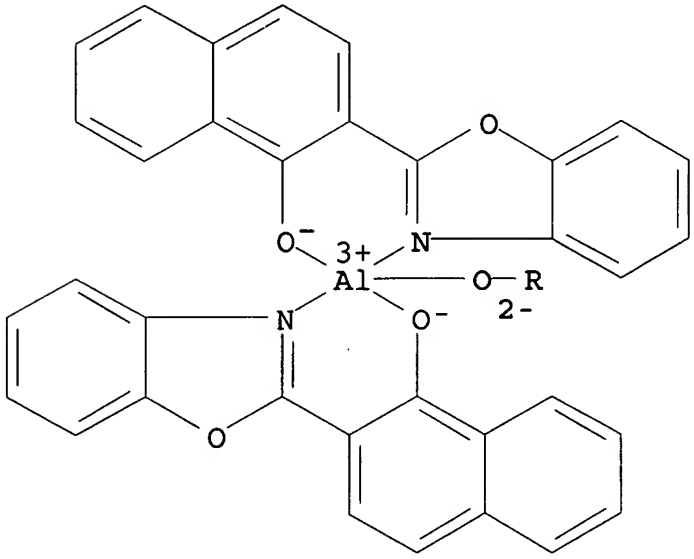


RN 216884-51-4 HCA
CN Aluminum, tetrakis[2-(2-benzoxazolyl-.kappa.N3)-1-naphthalenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A

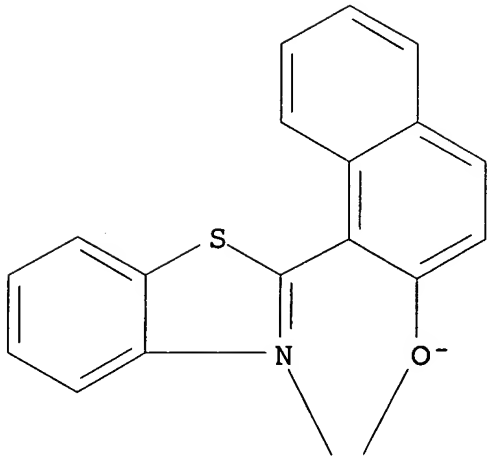


PAGE 2-A

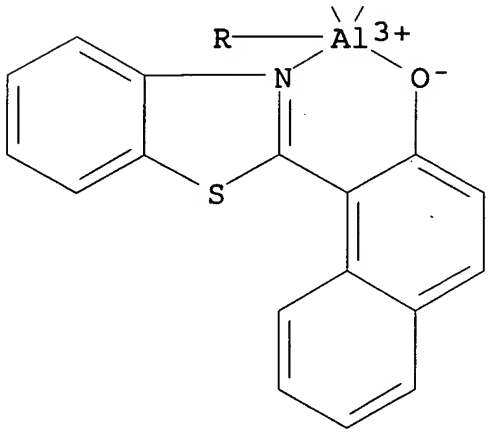


RN 216884-52-5 HCA
CN Aluminum, tetrakis[1-(2-benzothiazolyl-.kappa.N3)-2-naphthalenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

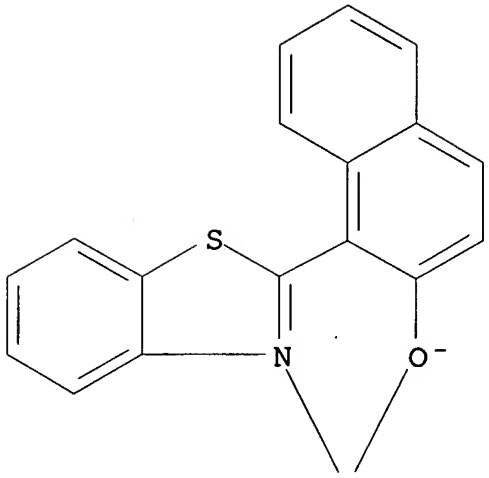
PAGE 1-A



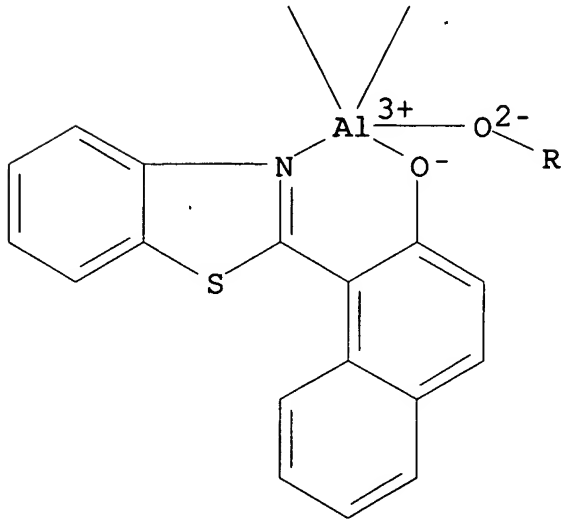
PAGE 2-A



PAGE 3-A

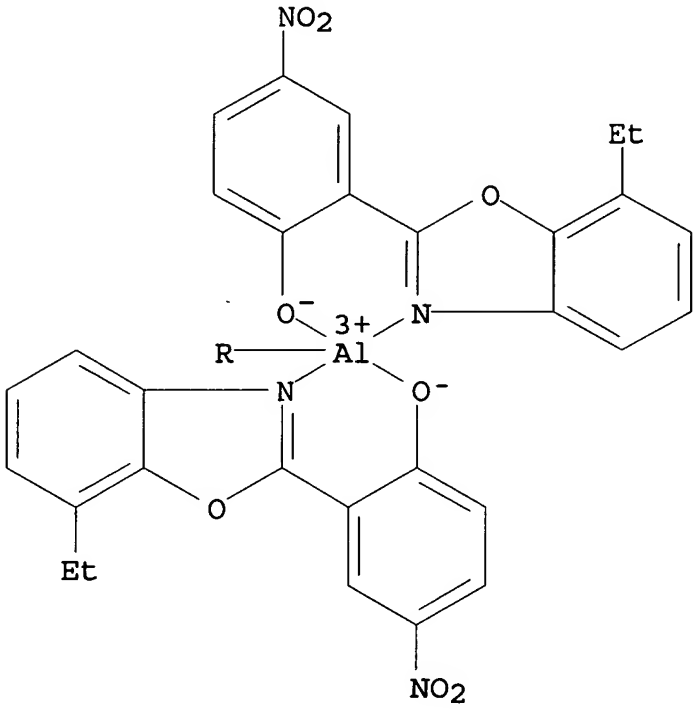


PAGE 4-A



RN 216884-53-6 HCA
CN Aluminum, tetrakis[2-(7-ethyl-2-benzoxazolyl-.kappa.N3)-4-nitrophenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A



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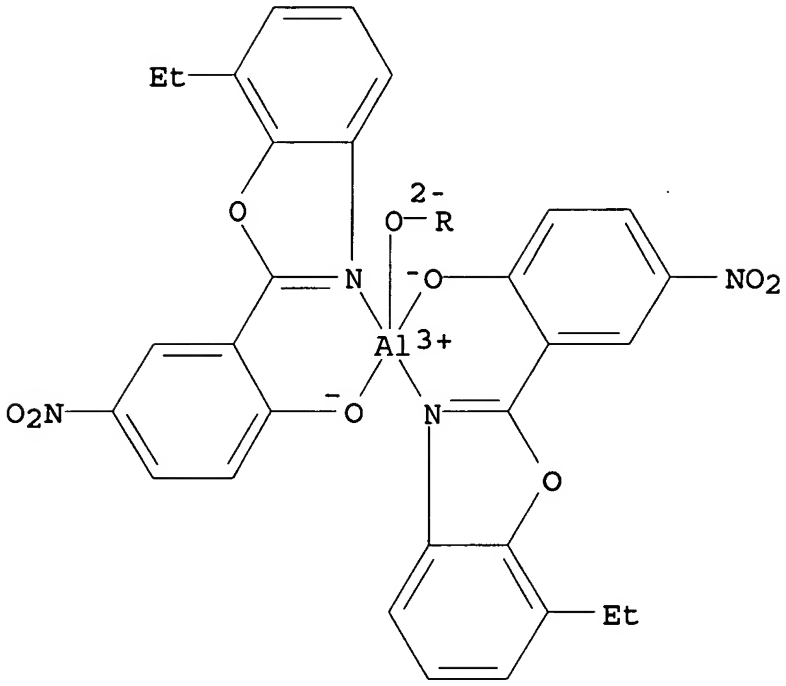
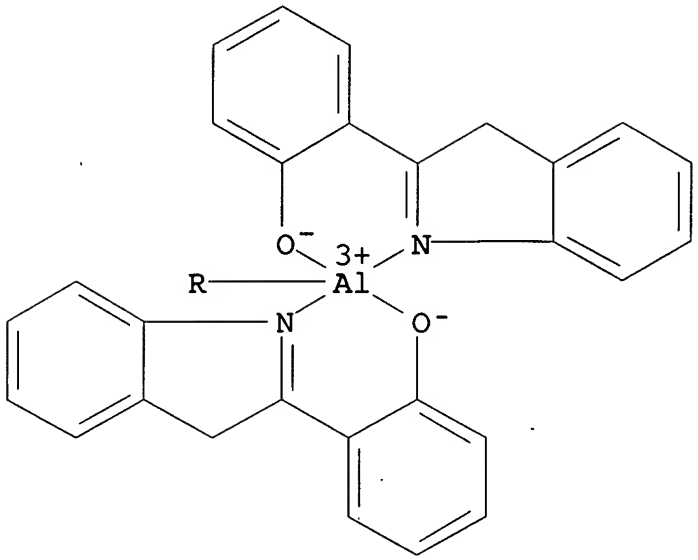


RN 216884-55-8 HCA
CN Aluminum, tetrakis[2-(3H-indol-2-yl-.kappa.N)phenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A



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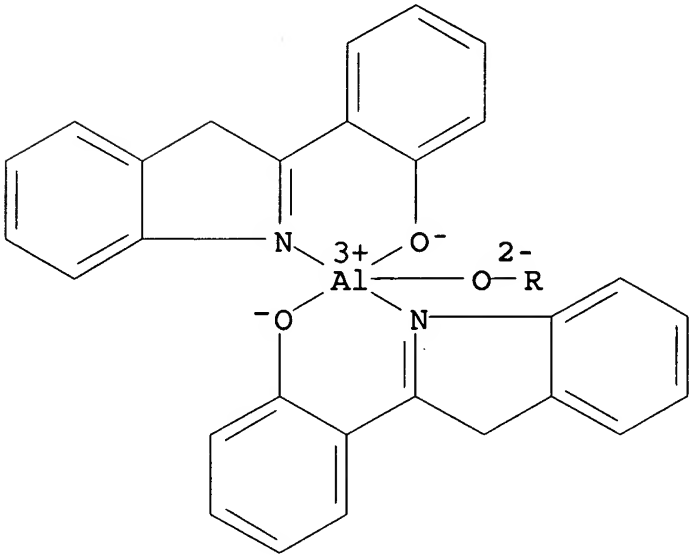
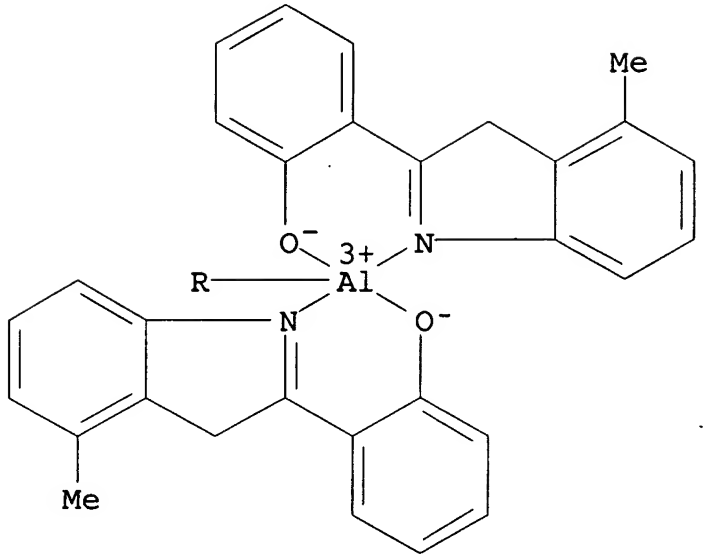
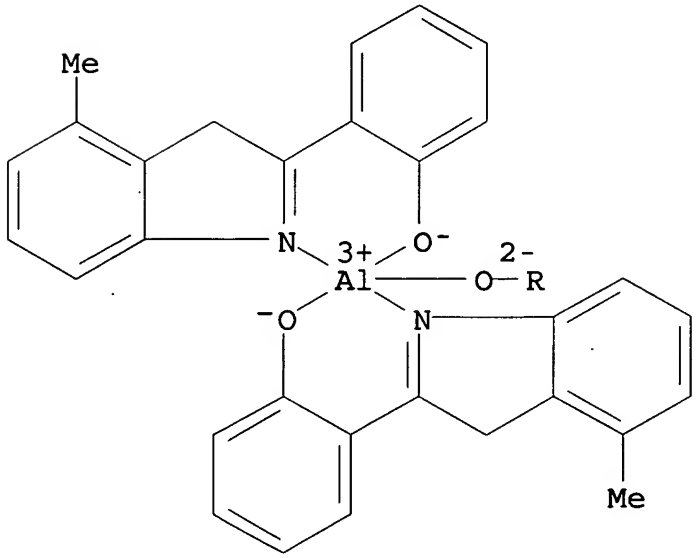


RN 216884-57-0 HCA
CN Aluminum, tetrakis[2-(4-methyl-3H-indol-2-yl-.kappa.N)phenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A

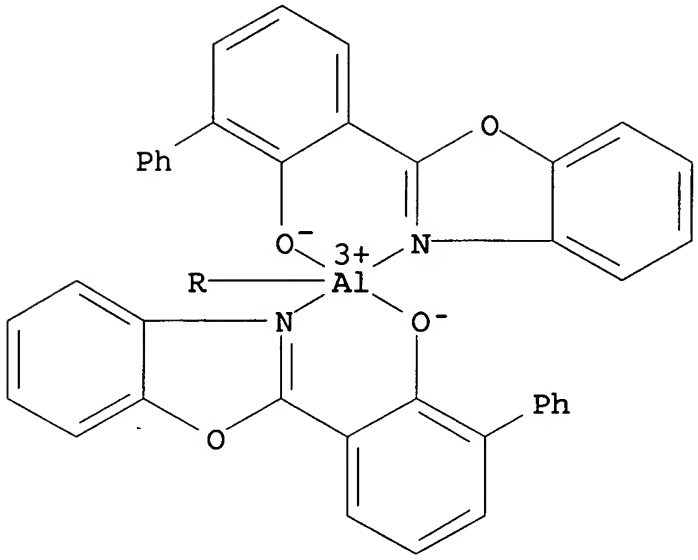


PAGE 2-A

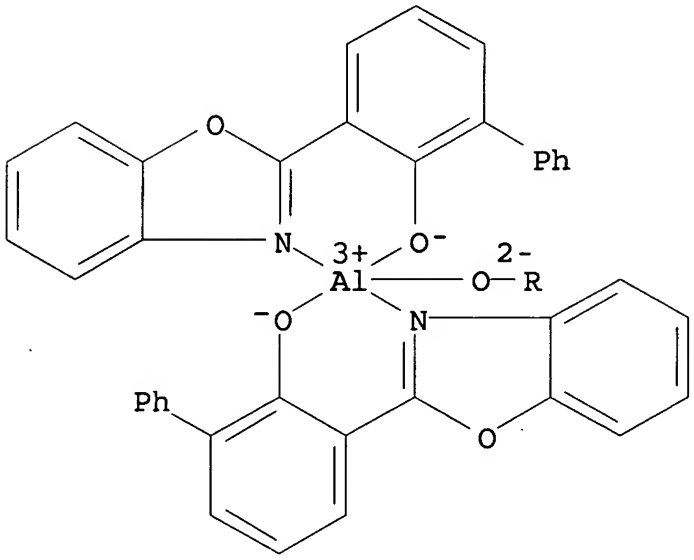


RN 216884-58-1 HCA
CN Aluminum, tetrakis[3-(2-benzoxazolyl-.kappa.N3)[1,1'-biphenyl]-2-olato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

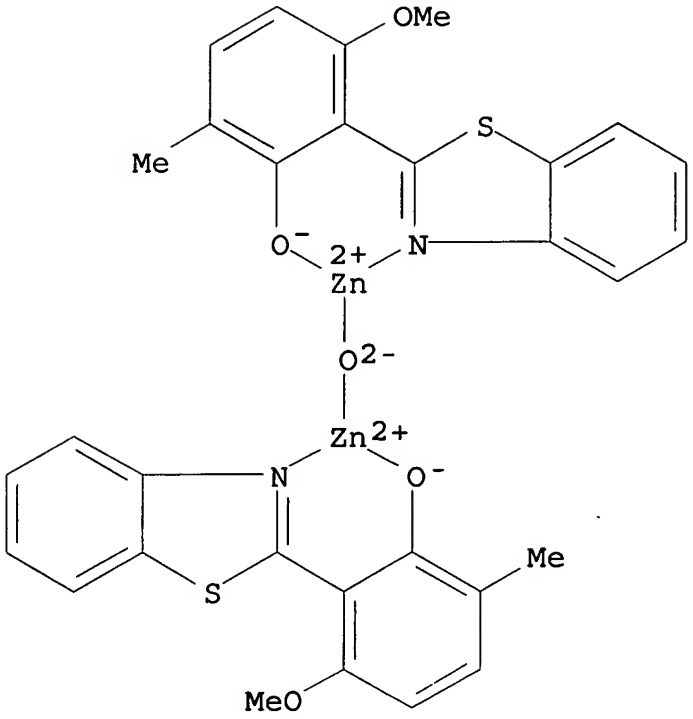
PAGE 1-A



PAGE 2-A

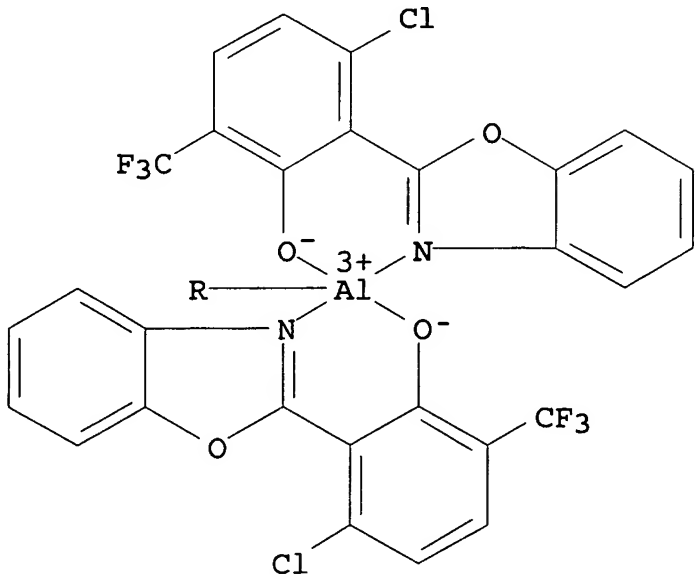


RN 216884-59-2 HCA
CN Zinc, bis[2-(2-benzothiazolyl-.kappa.N3)-3-methoxy-6-methylphenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)



RN 216884-61-6 HCA
CN Aluminum, tetrakis[2-(2-benzoxazolyl-.kappa.N3)-3-chloro-6-(trifluoromethyl)phenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A



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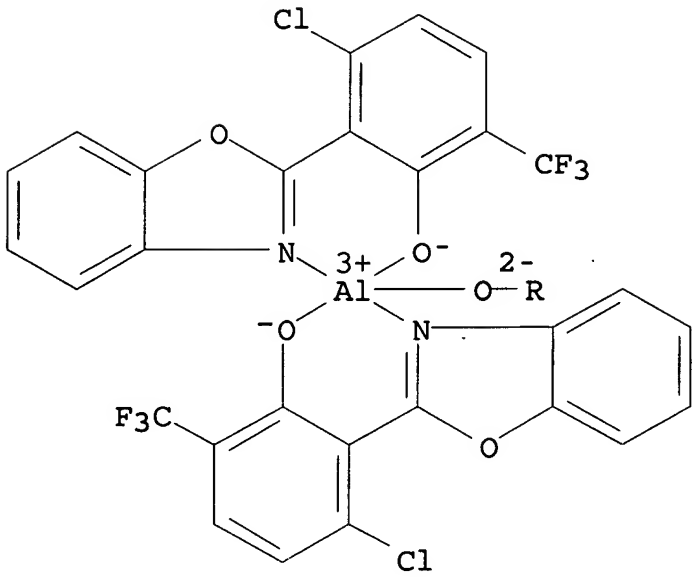
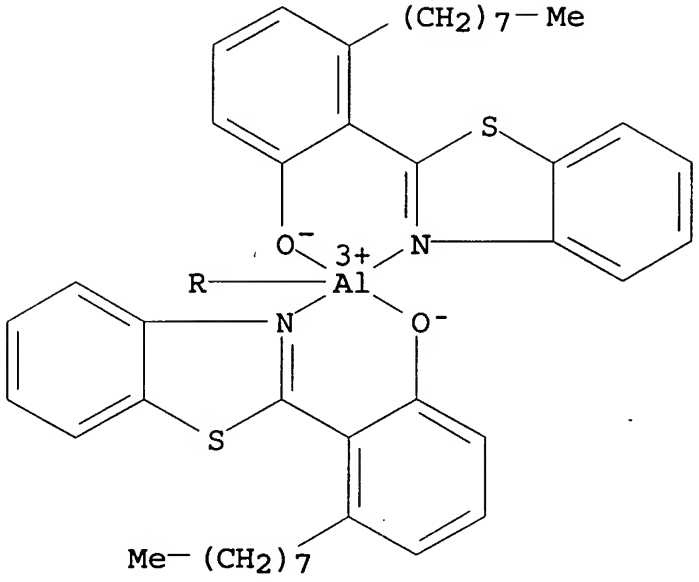


RN 216884-62-7 HCA
CN Aluminum, tetrakis[2-(2-benzothiazolyl-.kappa.N3)-3-octylphenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A



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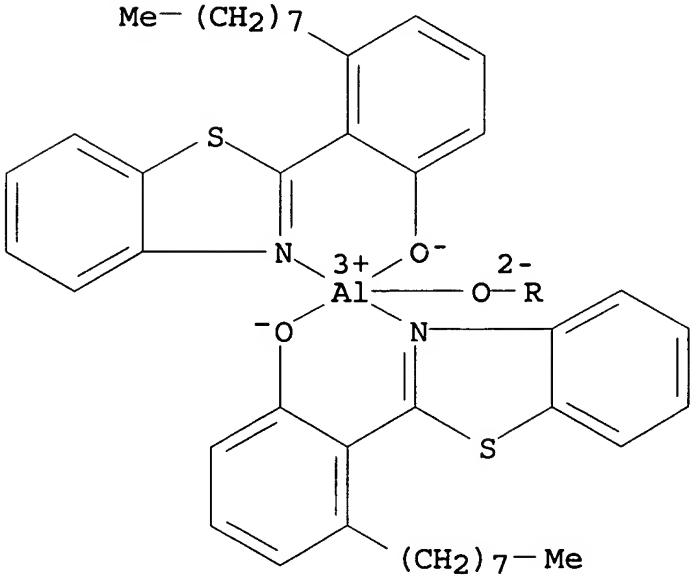
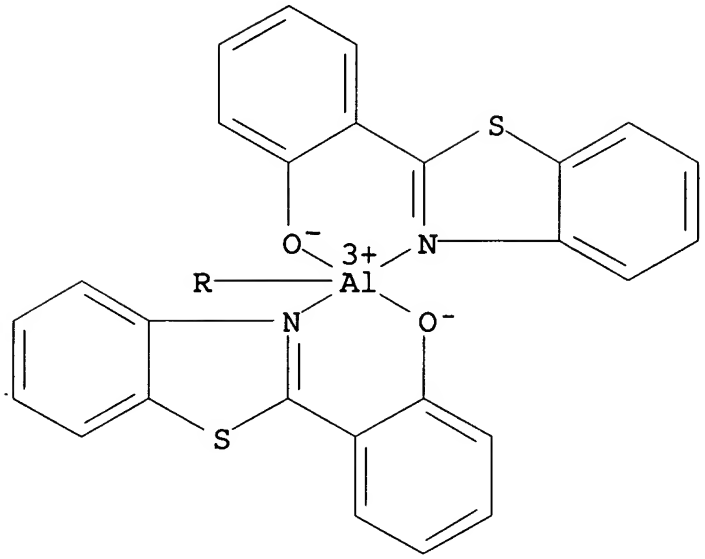


RN 216884-64-9 HCA
CN Aluminum, tetrakis[2-(2-benzothiazolyl-.kappa.N3)phenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)

PAGE 1-A



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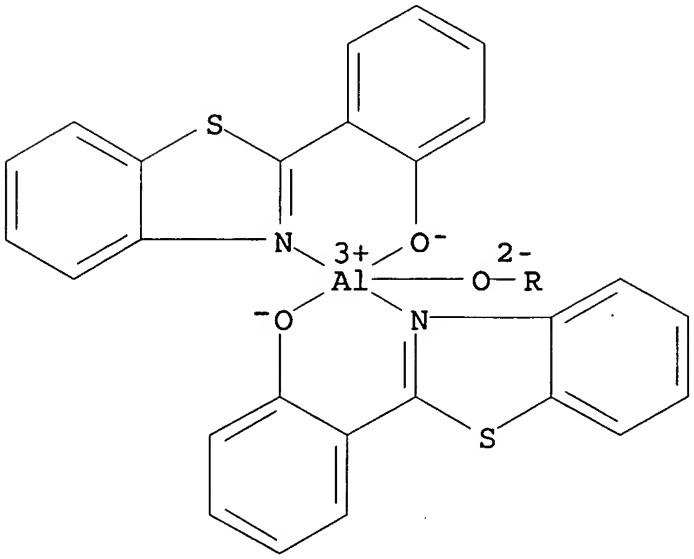
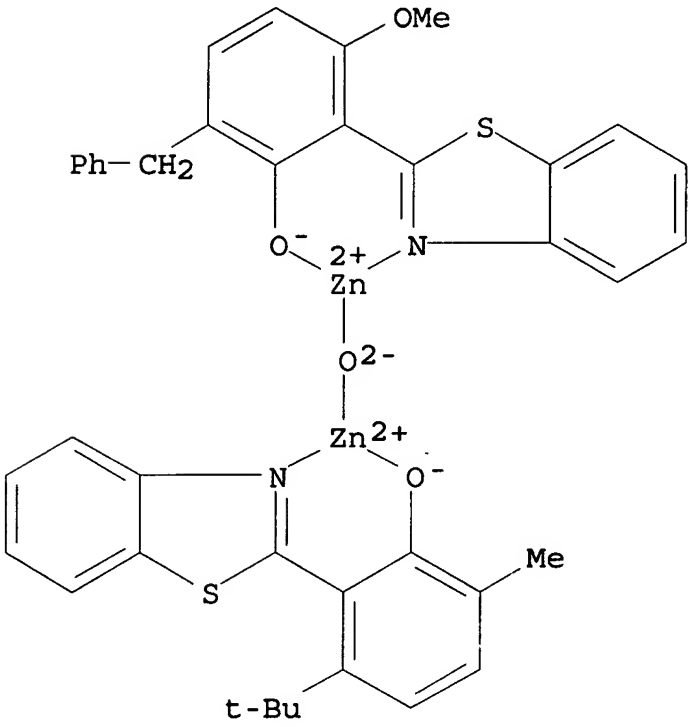


RN 216969-43-6 HCA
CN Zinc, [2-(2-benzothiazolyl-.kappa.N3)-3-(1,1-dimethylethyl)-6-methylphenolato-.kappa.O][2-(2-benzothiazolyl-.kappa.N3)-3-methoxy-6-

(phenylmethyl)phenolato-.kappa.O]-.mu.-oxodi- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78

ST **electroluminescent** device metal chelate arom complex

IT Phosphors
(**electroluminescent**; org. **electroluminescent** devices contg. metal chelate complexes)

IT **Electroluminescent** devices
(org. **electroluminescent** devices contg. metal chelate complexes)

IT Chelates
(org. **electroluminescent** devices contg. metal chelate complexes)

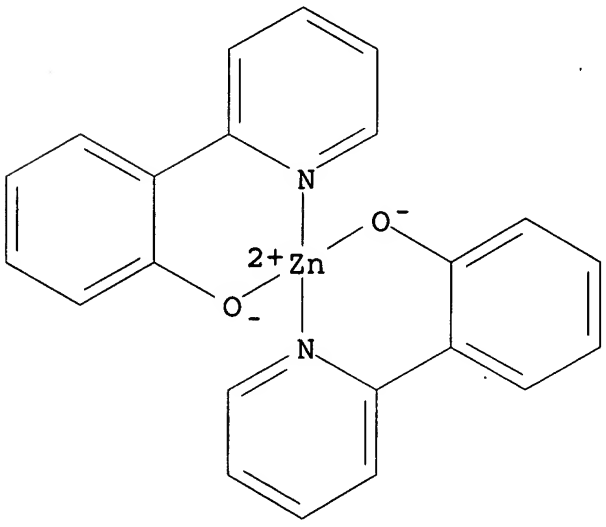
IT **203518-71-2 216884-51-4 216884-52-5**
216884-53-6 216884-54-7 **216884-55-8**
216884-56-9 **216884-57-0 216884-58-1**
216884-59-2 216884-60-5 **216884-61-6**
216884-62-7 216884-63-8 **216884-64-9**
216967-42-9 216968-58-0 **216969-43-6** 216969-65-2
(org. **electroluminescent** devices contg. metal chelate complexes)

L42 ANSWER 16 OF 23 HCA COPYRIGHT 2005 ACS on STN
129:283189 Novel metal-chelate emitting materials based on polycyclic aromatic ligands for **electroluminescent** devices. Tanaka, Hiromitsu; Tokito, Shizuo; Taga, Yasunori; Okada, Akane (Toyota Central R&D Laboratories Inc., Nagakute, Aichi, 480-11, Japan). Journal of Materials Chemistry, 8(9), 1999-2003 (English) **1998.** CODEN: JMACEP. ISSN: 0959-9428. Publisher: Royal Society of Chemistry.

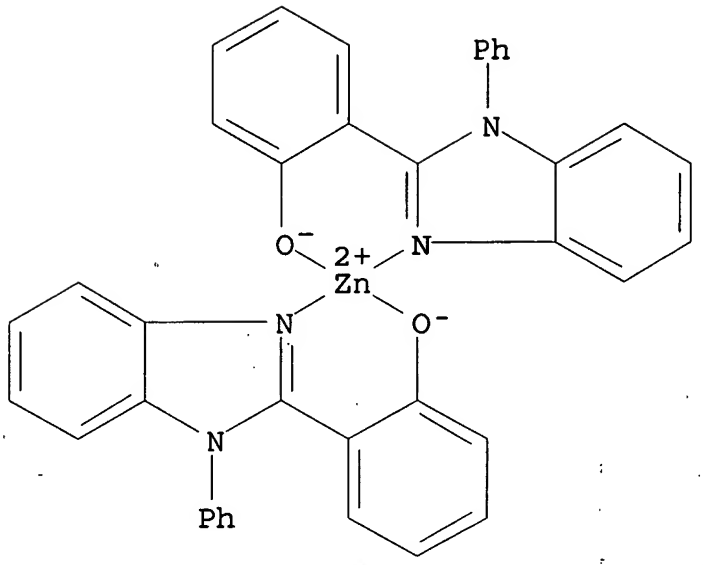
AB We have designed and synthesized novel metal-chelate complexes based on polycyclic arom. ligands for **electroluminescent** devices. These complexes exhibited strong luminescence with blue and green colors. **EL** properties of devices using these complexes for an emitting layer were studied. Several good emitting materials were obtained and the **EL** properties were found to strongly depend on the ligand structure.

IT **193622-08-1P 208187-79-5P 213818-07-6P**
213818-08-7P 214075-03-3P
(prepn. of **light-emitting** polycyclic heteroarom. metal complexes for **electroluminescent** devices and their **electroluminescence** properties)

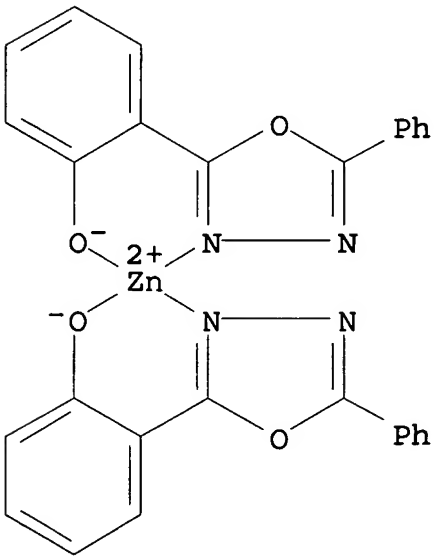
RN 193622-08-1 HCA
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



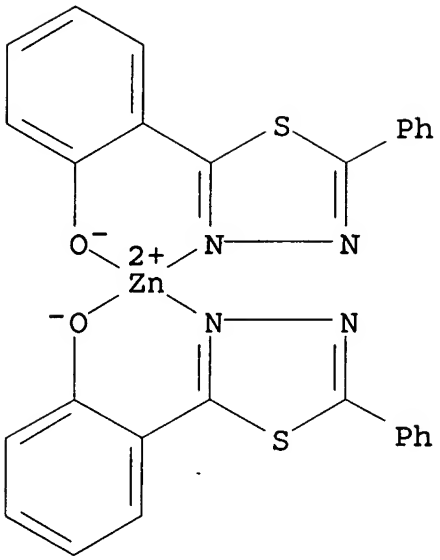
RN 208187-79-5 HCA
CN Zinc, bis[2-(1-phenyl-1H-benzimidazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



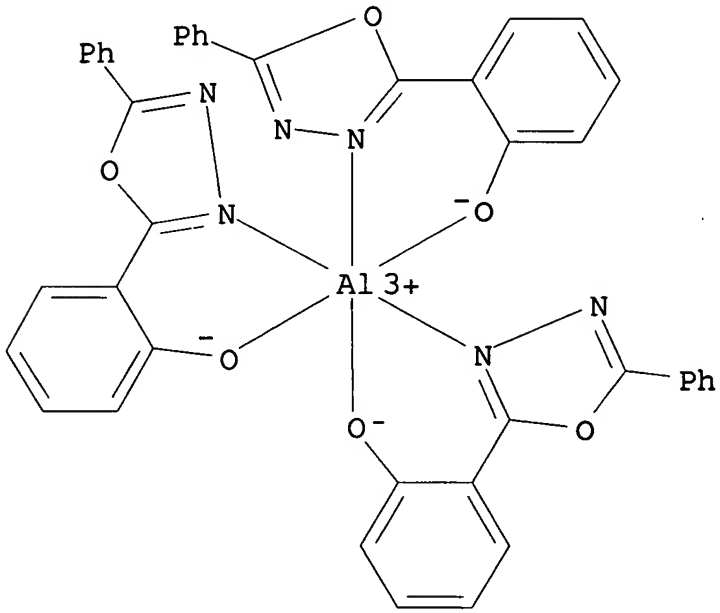
RN 213818-07-6 HCA
CN Zinc, bis[2-(5-phenyl-1,3,4-oxadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 213818-08-7 HCA
CN Zinc, bis[2-(5-phenyl-1,3,4-thiadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 214075-03-3 HCA
CN Aluminum, tris[2-(5-phenyl-1,3,4-oxadiazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (OC-6-22)- (9CI) (CA INDEX NAME)



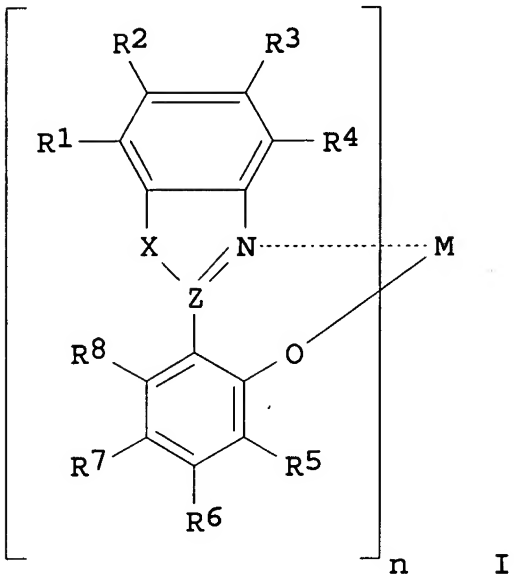
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28, 78
ST polycyclic heteroarom metal complex prepn

electroluminescence; electroluminescent device
polycyclic heteroarom metal complex
IT Polycyclic compounds
(arom., heteroarom.; prepn. of polycyclic heteroarom. ligands for novel metal-chelate **light-emitting** materials in **electroluminescent** devices)
IT Heterocyclic compounds
(arom., polycyclic; prepn. of polycyclic heteroarom. ligands for novel metal-chelate **light-emitting** materials in **electroluminescent** devices)
IT Phosphors
(**electroluminescent**; prepn. of polycyclic heteroarom. ligands for novel metal-chelate **light-emitting** materials in **electroluminescent** devices)
IT Aromatic compounds
(heterocyclic, polycyclic; prepn. of polycyclic heteroarom. ligands for novel metal-chelate **light-emitting** materials in **electroluminescent** devices)
IT Aromatic compounds
(polycyclic, heteroarom.; prepn. of polycyclic heteroarom. ligands for novel metal-chelate **light-emitting** materials in **electroluminescent** devices)
IT **Electroluminescent** devices
Luminescence, **electroluminescence**
(prepn. of polycyclic heteroarom. ligands for novel metal-chelate **light-emitting** materials in **electroluminescent** devices)
IT **193622-08-1P 208187-79-5P 213818-07-6P 213818-08-7P 214075-03-3P**
(prepn. of **light-emitting** polycyclic heteroarom. metal complexes for **electroluminescent** devices and their **electroluminescence** properties)
IT 534-85-0, N-Phenyl-1,2-phenylenediamine 578-57-4, o-Methoxybromobenzene 579-75-9, o-Anisic acid 613-94-5, Benzoylhydrazine 21615-34-9, o-Methoxybenzoyl chloride
(prepn. of polycyclic heteroarom. ligands for novel metal-chelate **light-emitting** materials in **electroluminescent** devices)
IT 1874-42-6P 4291-08-1P 5957-89-1P 6781-63-1P 17453-26-8P 18233-24-4P 33421-36-2P 94212-05-2P
(prepn. of polycyclic heteroarom. ligands for novel metal-chelate **light-emitting** materials in **electroluminescent** devices)

L42 ANSWER 17 OF 23 HCA COPYRIGHT 2005 ACS on STN
129:87844 Organic **electroluminescent** material and organic **electroluminescent** device with it. Enokida, Toshio; Tamano, Michiko; Onikubo, Shunichi; Okutsu, Satoshi (Toyo Ink Mfg. Co.,

Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10140145 A2 **19980526** Heisei, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-292274 19961105.

GI



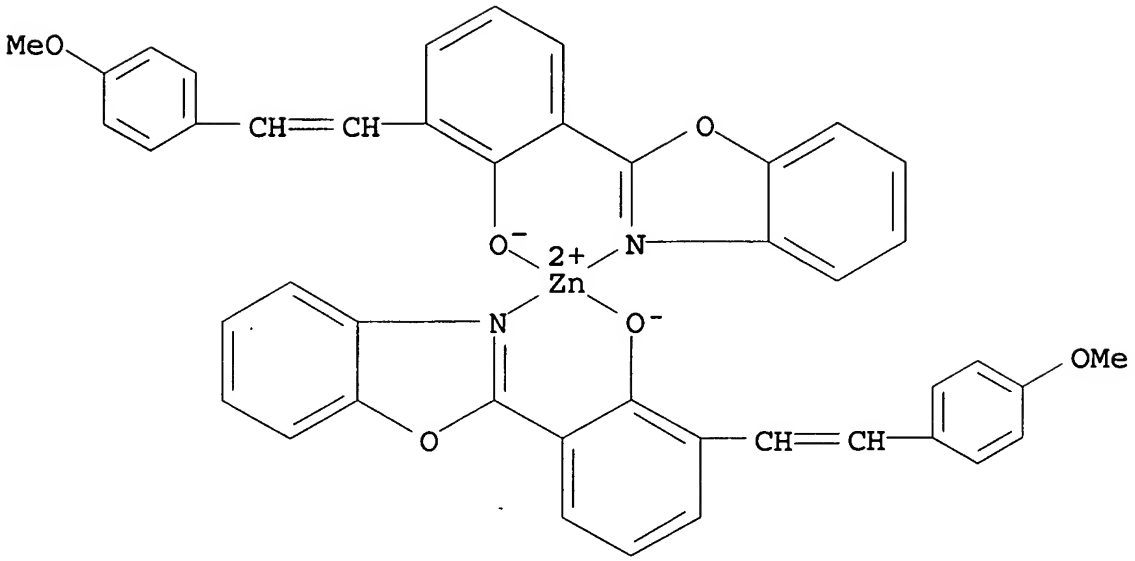
I

AB The material has a formula I [X = O, S, NR9, CR10R11; R1-11 = CY1:CY2Y3, H, halo, cyano, NO2, OH, siloxy, acyl, CO2H, SO3H, (cyclo) alkyl, alkylthio, alkoxy, NH3, aryl, aryloxy, arylthio, heterocyclic; Y1-3 = H, cyano, (cyclo) alkyl, aryl, heterocyclic; Y2 and Y3 and adjacent groups of R1-8 may bond to form an O-, S-, or N-contg. ring; Z = C, N; M = divalent or tetravalent metal; n = 2-4 integer]. The device has a pair of electrodes sandwiching a **light-emitting** layer or a **light-emitting** layer-contg. org. compd. thin film layer, in which at least .gtoreq.1 the layers contain the material as an electron injecting substance. The device shows high luminescence and long life.

IT **209175-25-7P**
(org. **electroluminescent** device contg. arom. compd. metal complex electron-injecting substance)

RN 209175-25-7 HCA

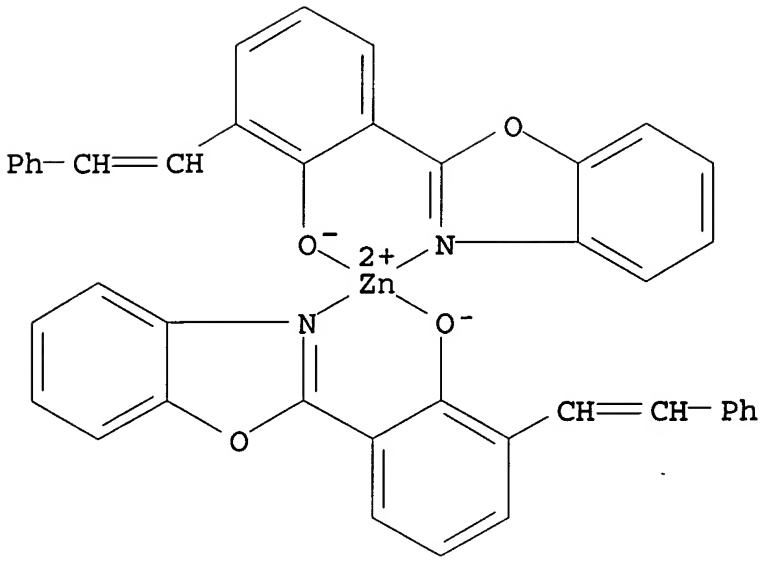
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-[2-(4-methoxyphenyl)ethenyl]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



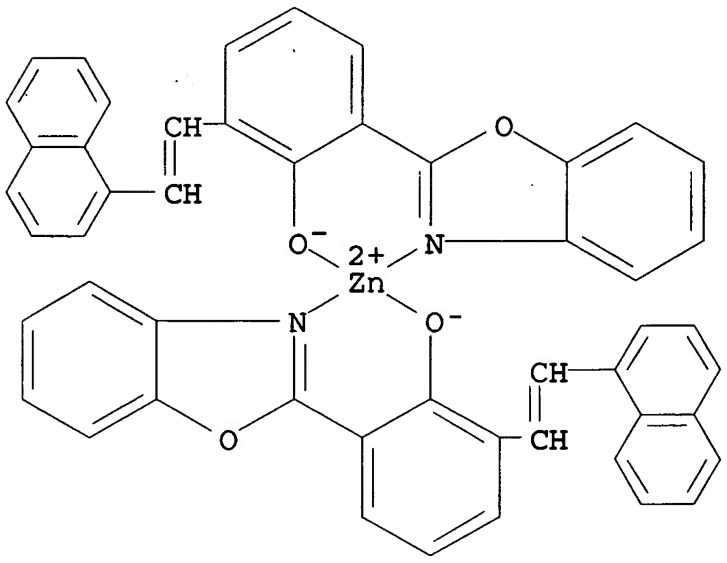
IT **209174-83-4 209174-85-6 209174-86-7**
209174-87-8 209174-90-3 209174-92-5
209174-94-7 209174-96-9 209174-98-1
209175-01-9 209175-03-1 209175-05-3
209175-07-5 209175-09-7 209175-12-2
209175-13-3 209175-16-6 209175-19-9
(org. **electroluminescent** device contg. arom. compd. metal complex electron-injecting substance)

RN 209174-83-4 HCA

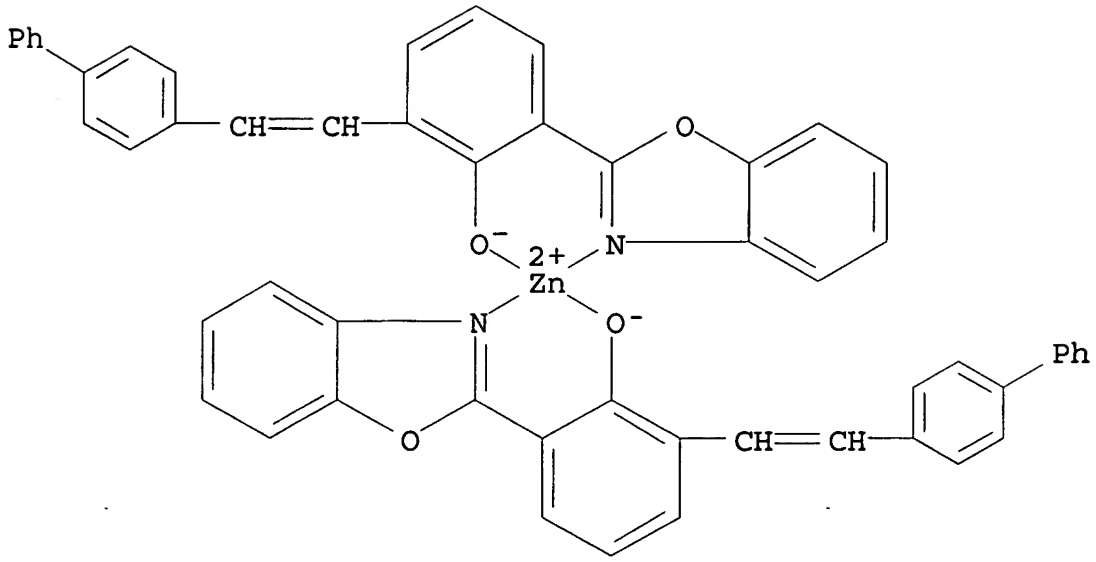
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-(2-phenylethenyl)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



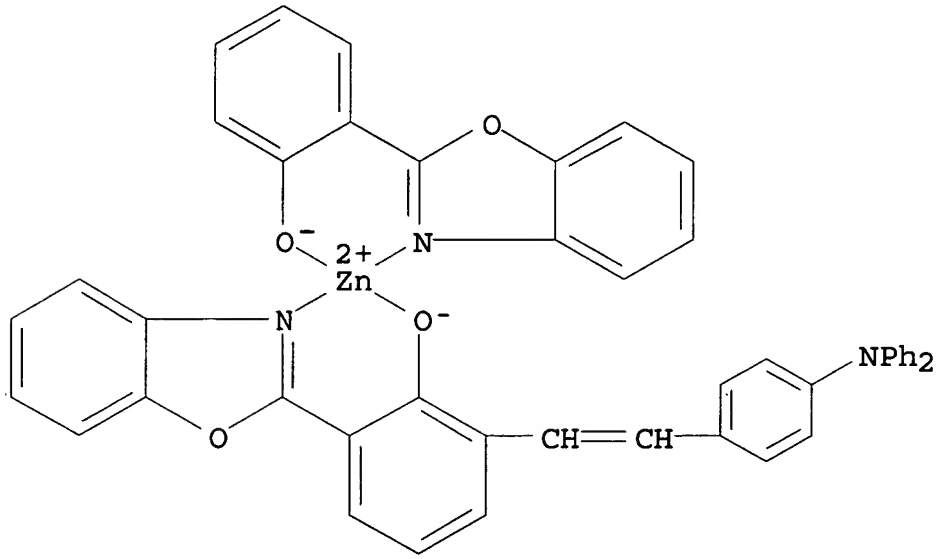
RN 209174-85-6 HCA
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-[2-(1-naphthalenyl)ethenyl]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



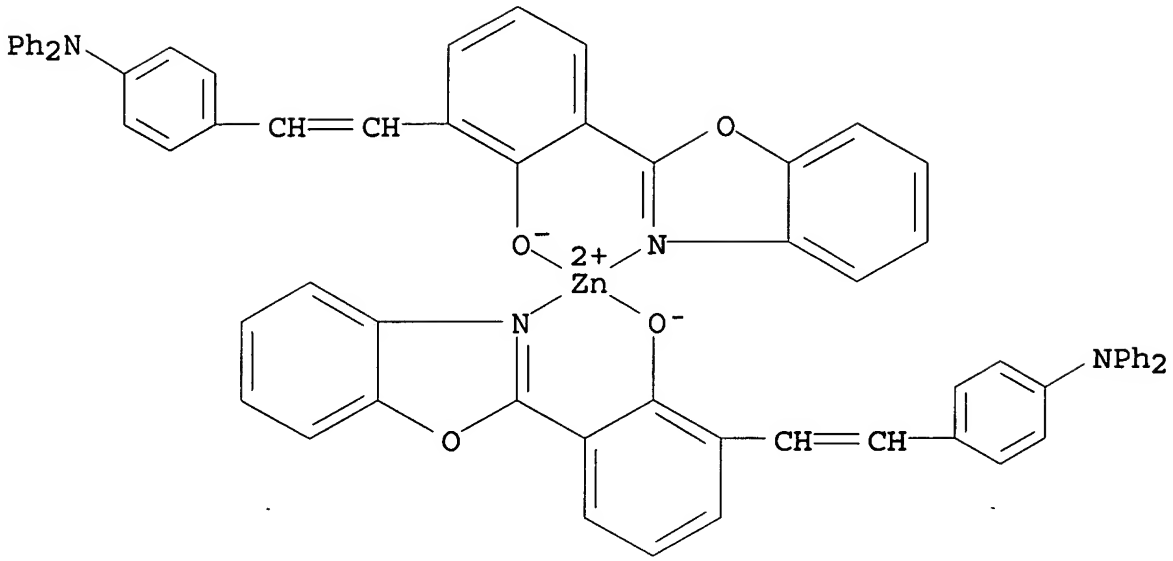
RN 209174-86-7 HCA
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-(2-[1,1'-biphenyl]-4-ylethenyl)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 209174-87-8 HCA
CN Zinc, [2-(2-benzoxazolyl-.kappa.N3)-6-[2-[4-(diphenylamino)phenyl]ethenyl]phenolato-.kappa.O][2-(2-benzoxazolyl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

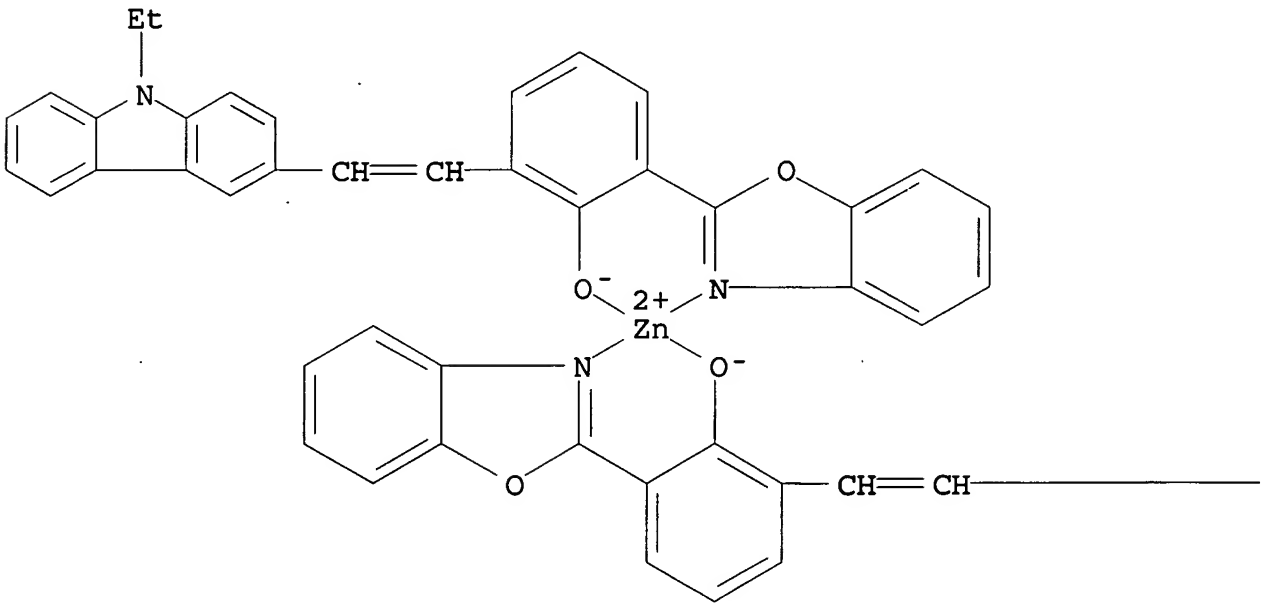


RN 209174-90-3 HCA
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-[2-[4-(diphenylamino)phenyl]ethenyl]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

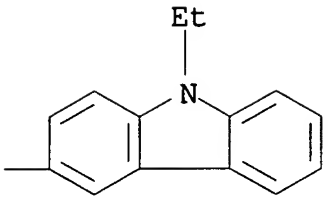


RN 209174-92-5 HCA
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-[2-(9-ethyl-9H-carbazol-3-yl)ethenyl]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

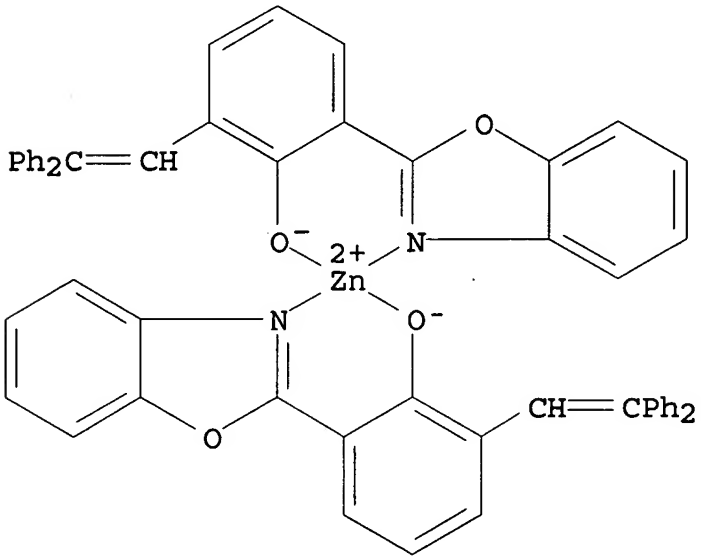
PAGE 1-A



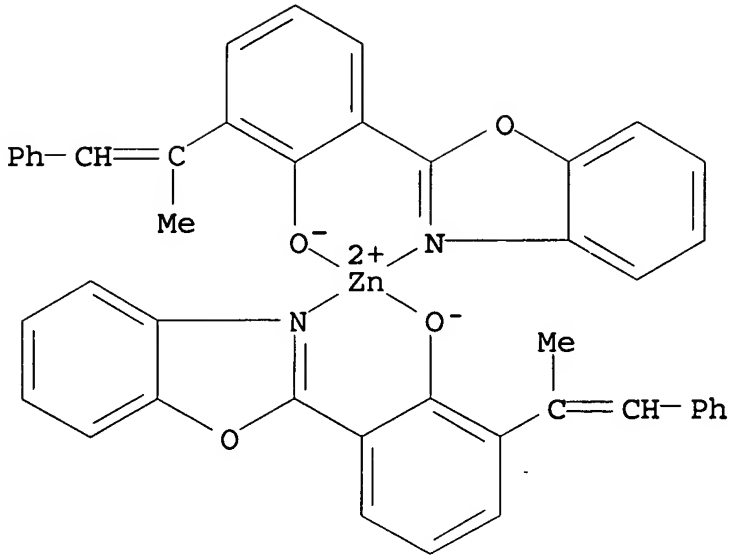
PAGE 1-B



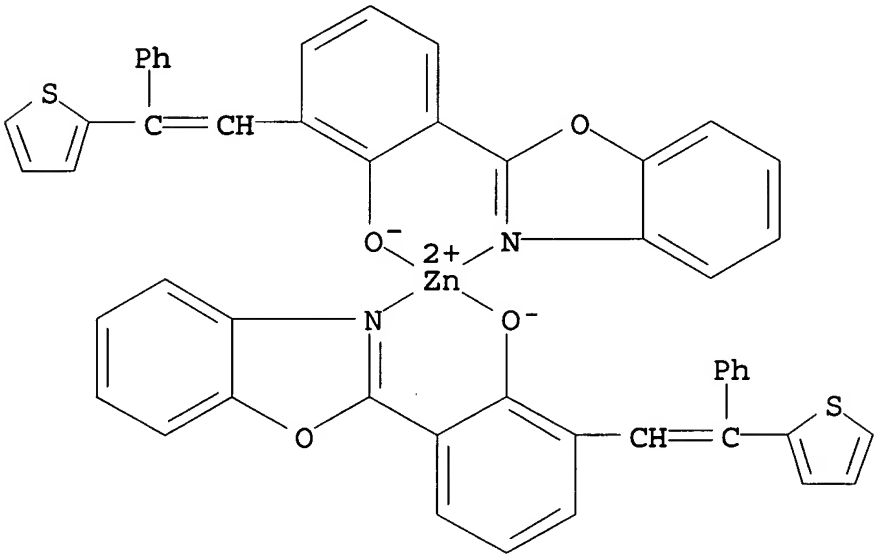
RN 209174-94-7 HCA
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-(2,2-diphenylethenyl)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



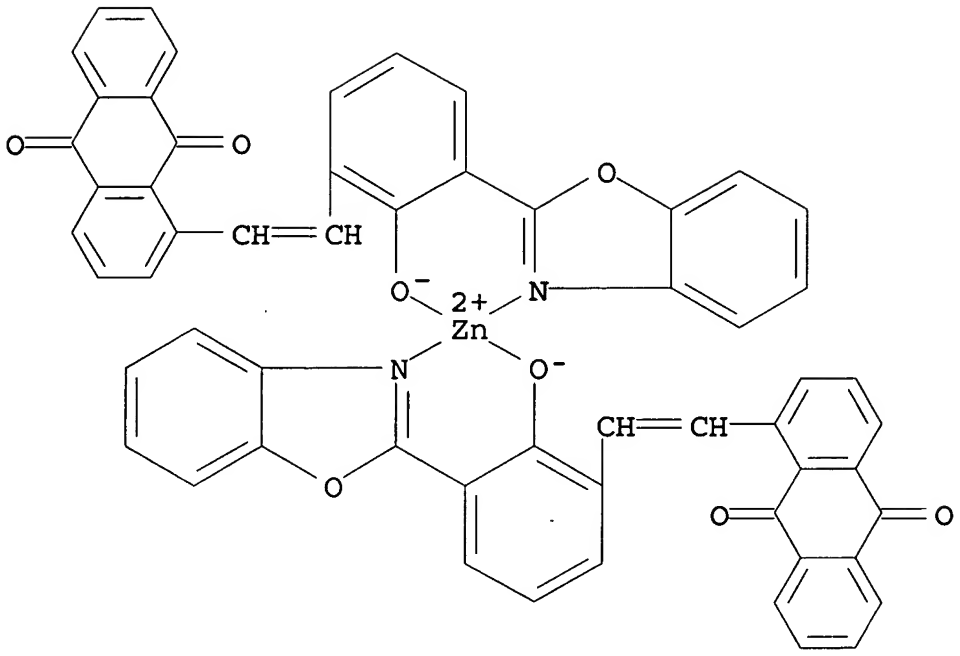
RN 209174-96-9 HCA
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-(1-methyl-2-phenylethenyl)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



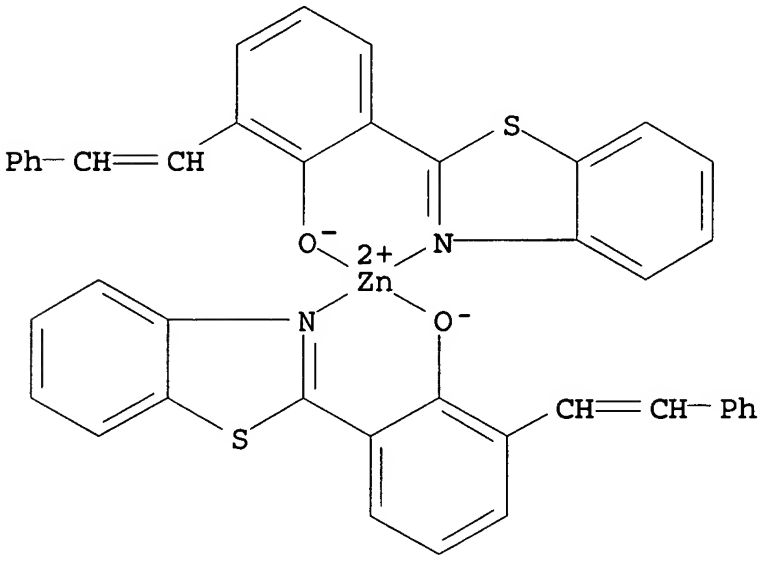
RN 209174-98-1 HCA
CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)-6-[2-phenyl-2-(2-thienyl)ethenyl]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



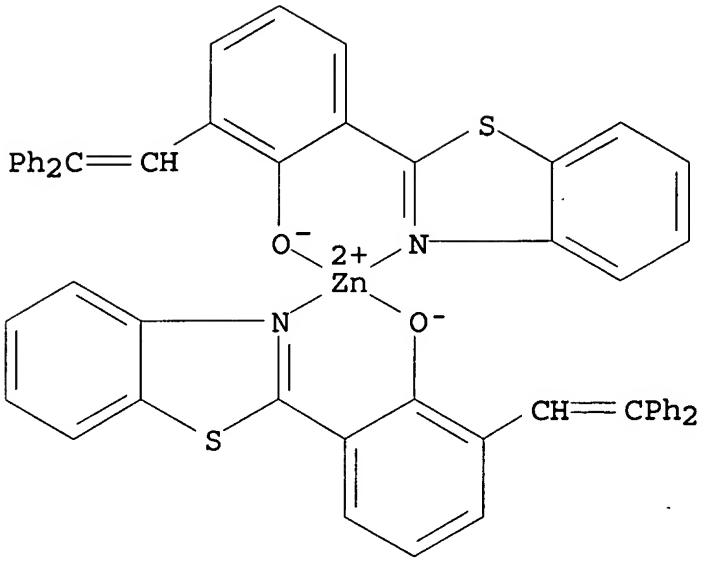
RN 209175-01-9 HCA
CN Zinc, bis[1-[2-[3-(2-benzoxazolyl-.kappa.N3)-2-(hydroxy-.kappa.O)phenyl]ethenyl]-9,10-anthracenedionato]-, (T-4)- (9CI) (CA INDEX NAME)



RN 209175-03-1 HCA
CN Zinc, bis[2-(2-benzothiazolyl-.kappa.N3)-6-(2-phenylethenyl)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

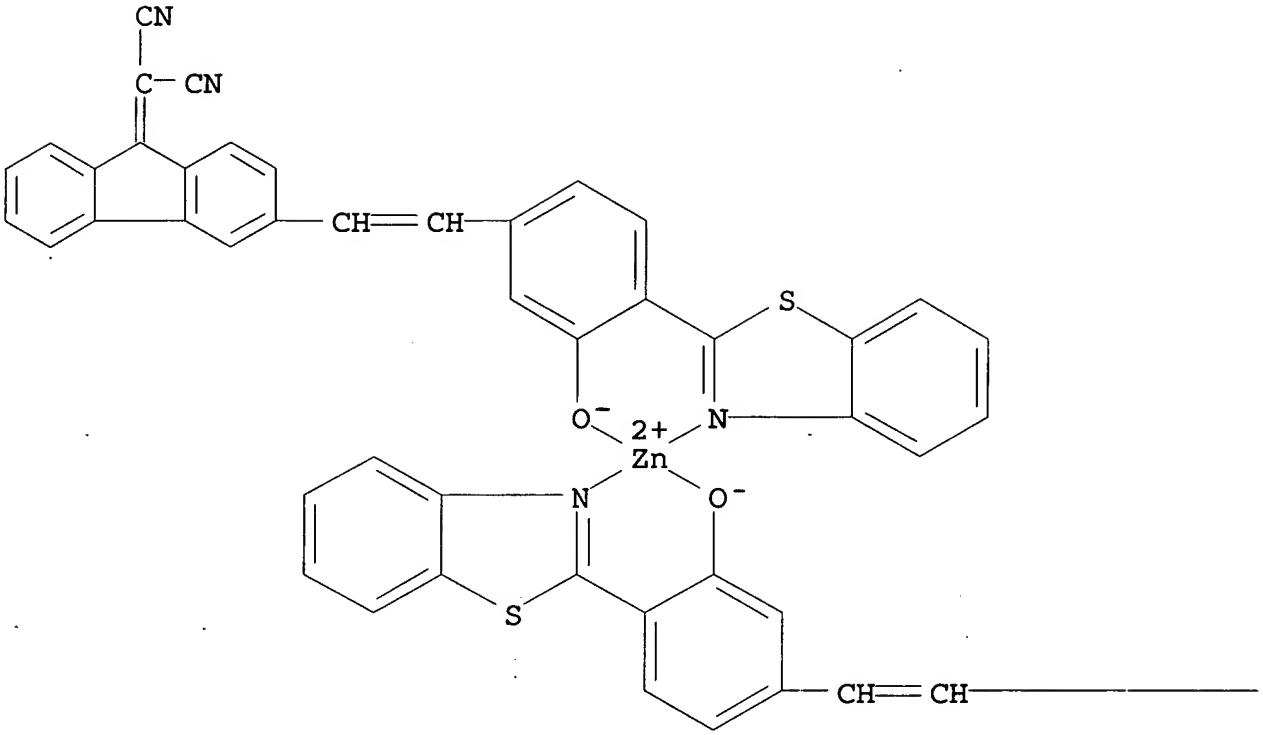


RN 209175-05-3 HCA
CN Zinc, bis[2-(2-benzothiazolyl-.kappa.N3)-6-(2,2-diphenylethenyl)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)

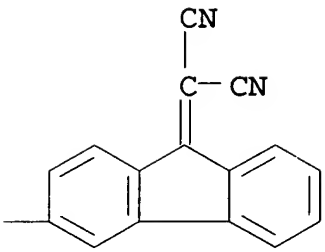


RN 209175-07-5 HCA
CN Zinc, bis[[3-[2-[4-(2-benzothiazolyl-.kappa.N3)-3-(hydroxy-.kappa.O)phenyl]ethenyl]-9H-fluoren-9-ylidene]propanedinitrilato]-, (T-4)- (9CI) (CA INDEX NAME)

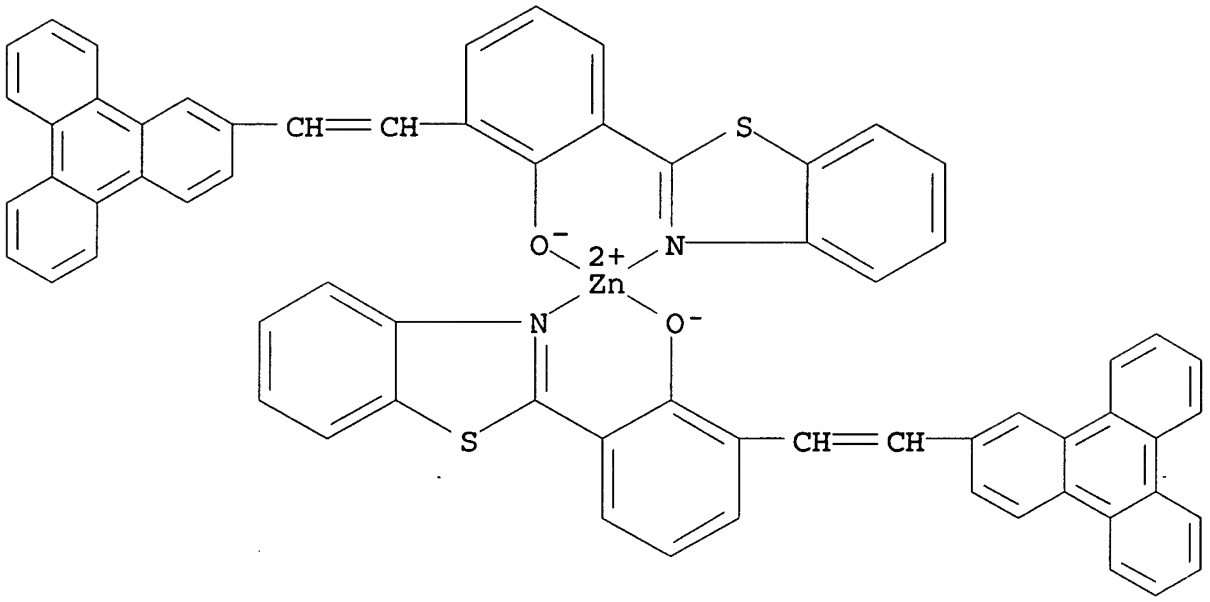
PAGE 1-A



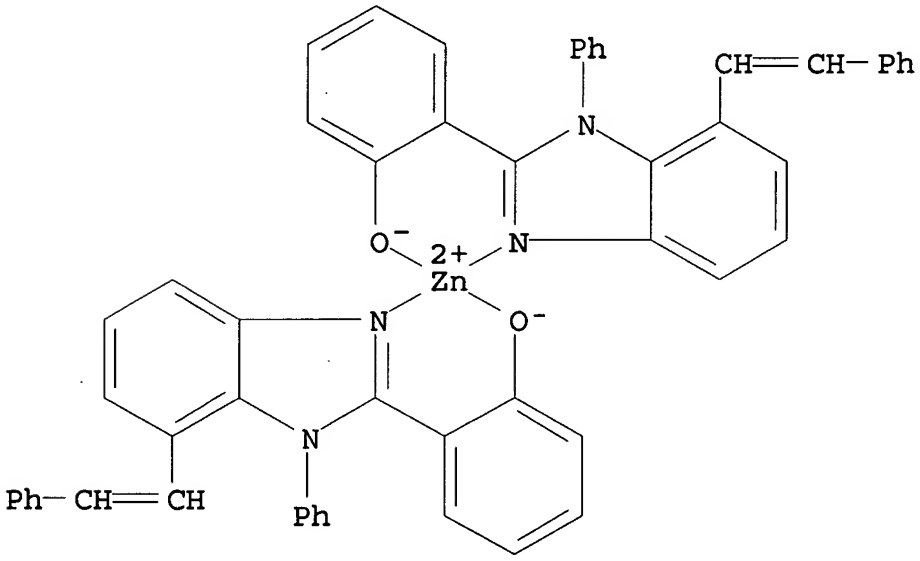
PAGE 1-B



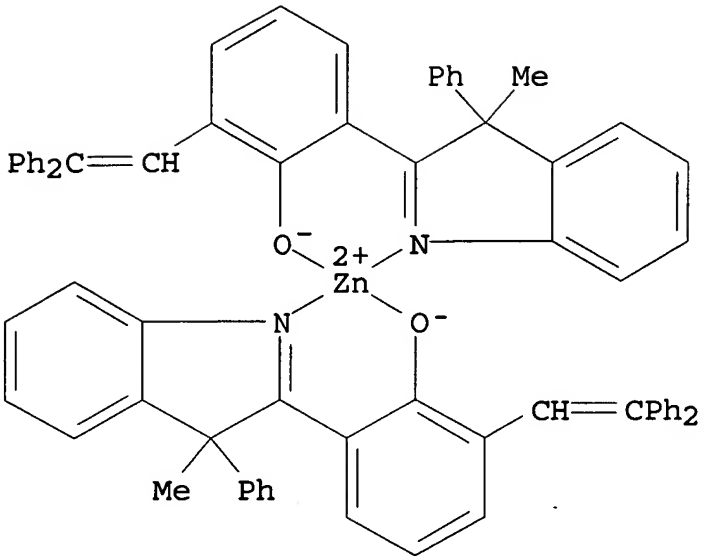
RN 209175-09-7 HCA
CN Zinc, bis[2-(2-benzothiazolyl-.kappa.N3)-6-[2-(2-triphenylenyl)ethenyl]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



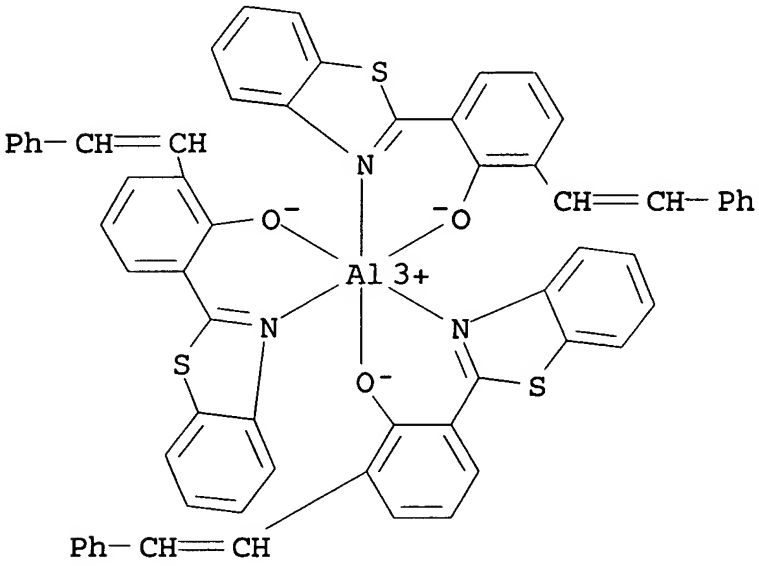
RN 209175-12-2 HCA
CN Zinc, bis[2-[1-phenyl-7-(2-phenylethenyl)-1H-benzimidazol-2-yl-.kappa.N3]phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



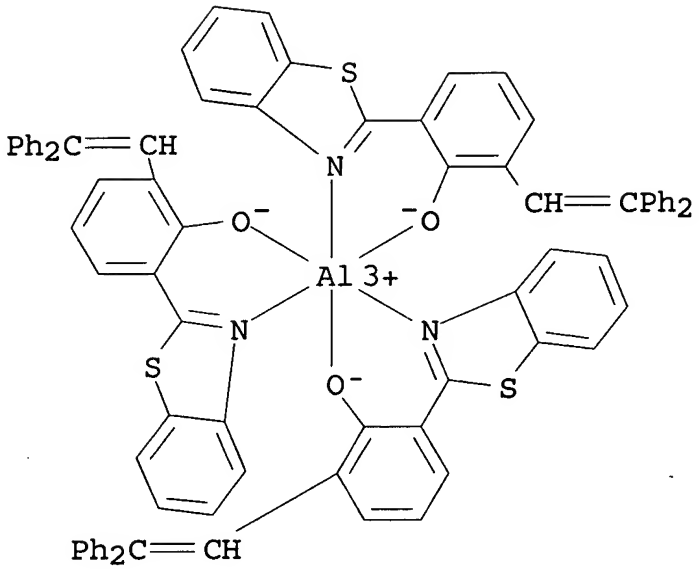
RN 209175-13-3 HCA
CN Zinc, bis[2-(2,2-diphenylethenyl)-6-(3-methyl-3-phenyl-3H-indol-2-yl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



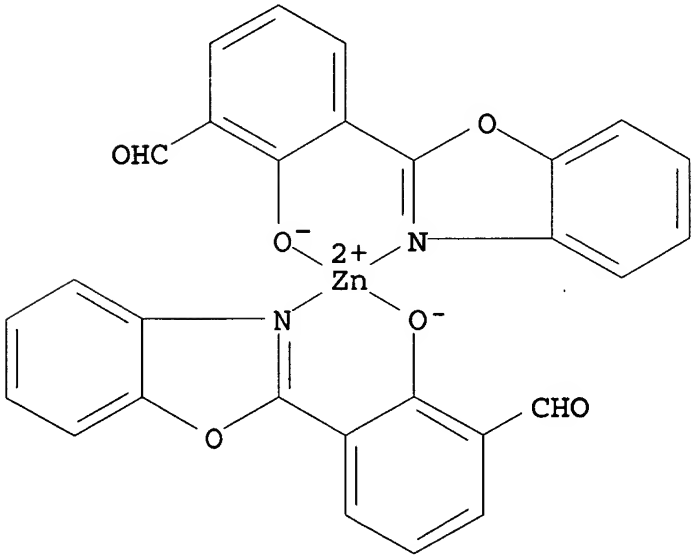
RN 209175-16-6 HCA
CN Aluminum, tris[2-(2-benzothiazolyl-.kappa.N3)-6-(2-phenylethenyl)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



RN 209175-19-9 HCA
CN Aluminum, tris[2-(2-benzothiazolyl-.kappa.N3)-6-(2,2-diphenylethenyl)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



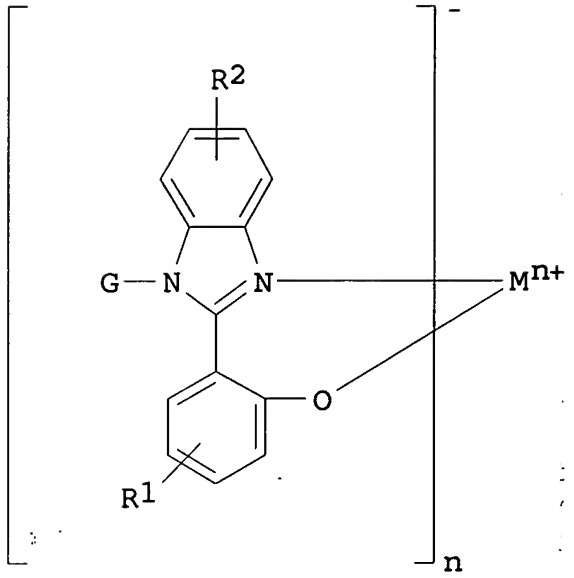
IT **209175-27-9**
(org. **electroluminescent** device contg. arom. compd. metal complex electron-injecting substance)
RN 209175-27-9 HCA
CN Zinc, bis[3-(2-benzoxazolyl-.kappa.N3)-2-(hydroxy-.kappa.O)benzaldehydato]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)
Section cross-reference(s): 74
ST **electroluminescent** device metal complex electron donator
IT **Electroluminescent** devices
(org. **electroluminescent** device contg. arom. compd. metal complex electron-injecting substance)
IT **209175-25-7P**
(org. **electroluminescent** device contg. arom. compd. metal complex electron-injecting substance)
IT **209174-83-4 209174-85-6 209174-86-7**
209174-87-8 209174-90-3 209174-92-5
209174-94-7 209174-96-9 209174-98-1
209175-01-9 209175-03-1 209175-05-3
209175-07-5 209175-09-7 209175-12-2
209175-13-3 209175-14-4 209175-15-5 **209175-16-6**
209175-17-7 209175-18-8 **209175-19-9** 209175-20-2
209175-22-4 209175-23-5 209175-24-6
(org. **electroluminescent** device contg. arom. compd. metal complex electron-injecting substance)
IT 557-34-6, Zinc acetate 36103-43-2 209175-26-8
209175-27-9
(org. **electroluminescent** device contg. arom. compd. metal complex electron-injecting substance)

L42 ANSWER 18 OF 23 HCA COPYRIGHT 2005 ACS on STN
129:47223 Blue luminescent materials for organic **electroluminescent** devices. Shi, Jianmin; Chen, Chin H.; Klubek, Kevin P. (Eastman Kodak Co., USA). U.S. US 5755999 A **19980526**, 25 pp. (English). CODEN: USXXAM. APPLICATION: US 1997-857747 19970516.
GI



I

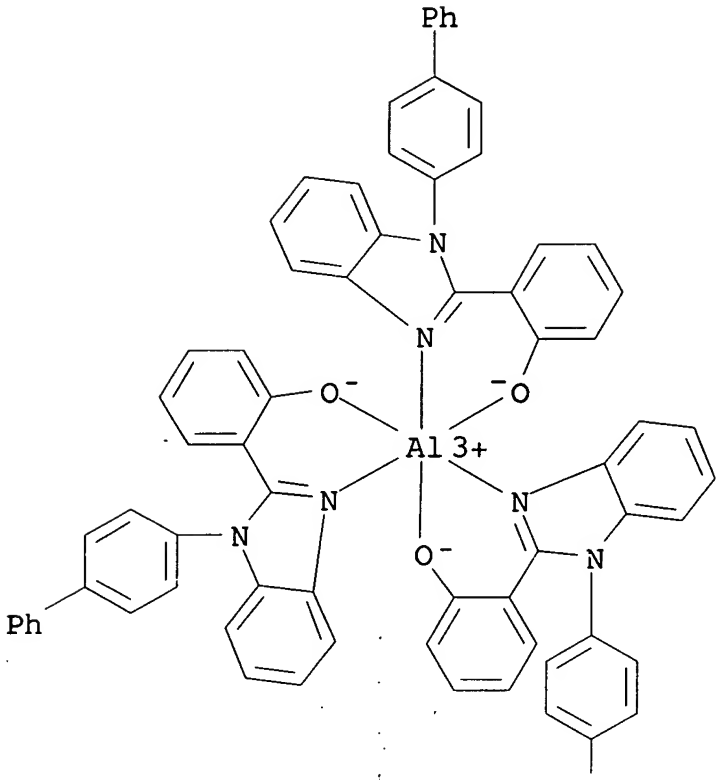
AB Luminescent materials are described by the general formula I (n = 2 or 3; M = a divalent or trivalent metal; G = (un)substituted aryl or (un)substituted heteroaryl, both the aryl and the heteroaryls 6-24 C atoms, wherein the substituted aryl or heteroaryl = alkyl, haloalkyl with 1-8 C atoms, alkoxy or haloalkoxy group with 1-18 C atoms, halo, cyano, amino, amido, SO, CO, aryl, or heteroaryl; and R1 and R2 = individually H, alkyl or haloalkyl with 1-18 C atoms, halo, cyano, amino, amido, SO, CO, and 5-24 atoms necessary to complete a fused arom. ring).

IT **208187-68-2P 208187-75-1P 208187-79-5P**
(organometallic blue luminescent materials for **electroluminescent** devices)

RN 208187-68-2 HCA

CN Aluminum, tris[2-(1-[1,1'-biphenyl]-4-yl-1H-benzimidazol-2-yl-.kappa.N3)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)

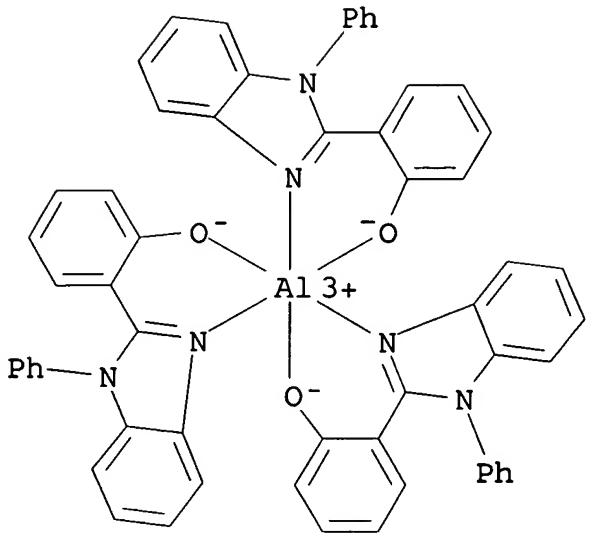
PAGE 1-A



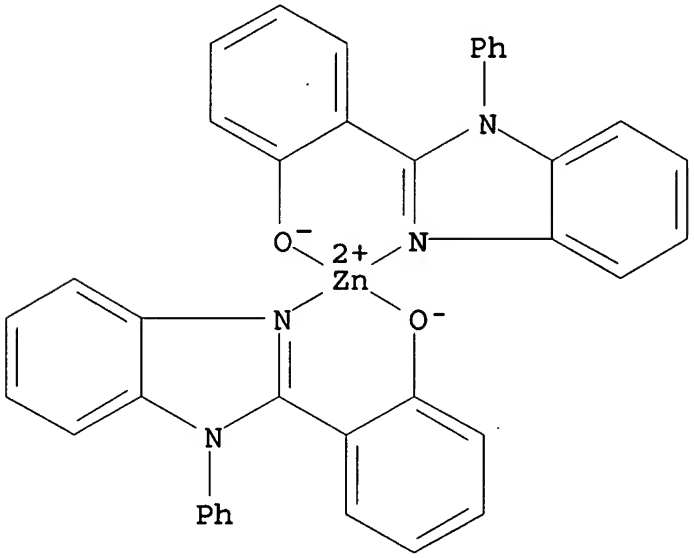
PAGE 2-A

Ph

RN 208187-75-1 HCA
CN Aluminum, tris[2-(1-phenyl-1H-benzimidazol-2-yl-.kappa.N3)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



RN 208187-79-5 HCA
CN Zinc, bis[2-(1-phenyl-1H-benzimidazol-2-yl-.kappa.N3)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C07F005-06
INCL 252301160
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29, 76

ST **electroluminescent** material aryl benzimidazolyl phenol complex; blue **electroluminescent** aryl benzimidazolyl phenol complex

IT Phosphors
(**electroluminescent**, blue; organometallic blue luminescent materials for **electroluminescent** devices)

IT **Electroluminescent** devices
(organometallic blue luminescent materials for **electroluminescent** devices)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7439-97-6D, Mercury, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 7440-05-3D, Palladium, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 7440-24-6D, Strontium, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 7440-28-0D, Thallium, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 7440-39-3D, Barium, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 7440-43-9D, Cadmium, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 7440-55-3D, Gallium, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 7440-70-2D, Calcium, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 7440-74-6D, Indium, compds. with o-(N-aryl-2-benzimidazolyl)phenol compds., uses 50926-11-9, Indium-tin-oxide 117665-21-1 123847-85-8
(organometallic blue luminescent materials for **electroluminescent** devices)

IT **208187-68-2P 208187-75-1P** 208187-77-3P **208187-79-5P** 208187-81-9P 208187-84-2P
(organometallic blue luminescent materials for **electroluminescent** devices)

IT 2406-74-8P
(organometallic blue luminescent materials for **electroluminescent** devices)

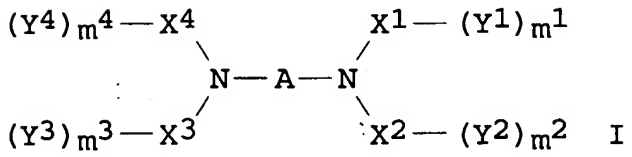
IT 88-73-3, 1-Chloro-2-nitrobenzene 92-67-1, 4-Aminobiphenyl 142-71-2, Copper acetate 142-72-3, Magnesium acetate 144-55-8, Sodium bicarbonate, reactions 534-85-0, N-Phenyl-1,2-phenylenediamine 555-31-7, Aluminum isopropoxide 557-34-6, Zinc acetate 13510-49-1, Beryllium sulfate 21615-34-9, o-Anisoyl chloride
(organometallic blue luminescent materials for **electroluminescent** devices)

IT 94212-05-2P 175712-79-5P 208187-62-6P 208187-64-8P 208187-66-0P 208187-71-7P
(organometallic blue luminescent materials for **electroluminescent** devices)

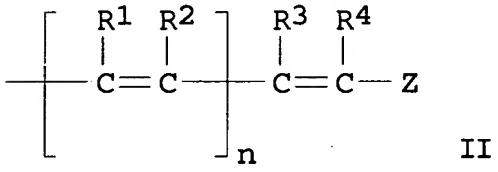
L42 ANSWER 19 OF 23 HCA COPYRIGHT 2005 ACS on STN
128:17237 Organic **electroluminescent** device elements.

Enokida, Toshio; Tamano, Michiko (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09268284 A2 **19971014** Heisei, 33 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-78501 19960401.

GI



I



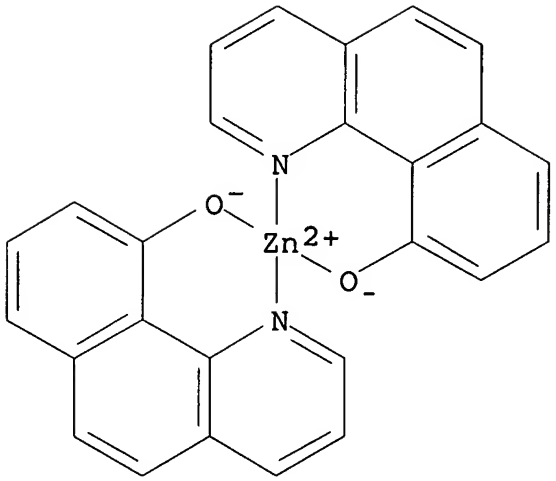
II

AB The elements comprise the phosphors I contg. II; I [A, X1-4 = C2-20 arylene; m1, m2, m3, m4 = 0-2; Y1-4 = II] II [R1-4 = H, (un)substituted alkyl, (un)substituted aryl, CN; Z = (un)substituted aryl; n = 0, 1]; a tertiary amine deriv. (B1,2N)G(NB3,4) formed between the phosphor and the anode [B1-4 = (un)substituted C6-20 aryl; G = (un)substituted arylene]; and a metal complex Q1,2GaL formed between the phosphor and the cathode [Q1,2 = (un)substituted hydrobenzoquinoline deriv.; L = halo, (un)substituted (cyclo)alkyl, aryl cong. optional (un)substituted N, OR (R .ident. L)].

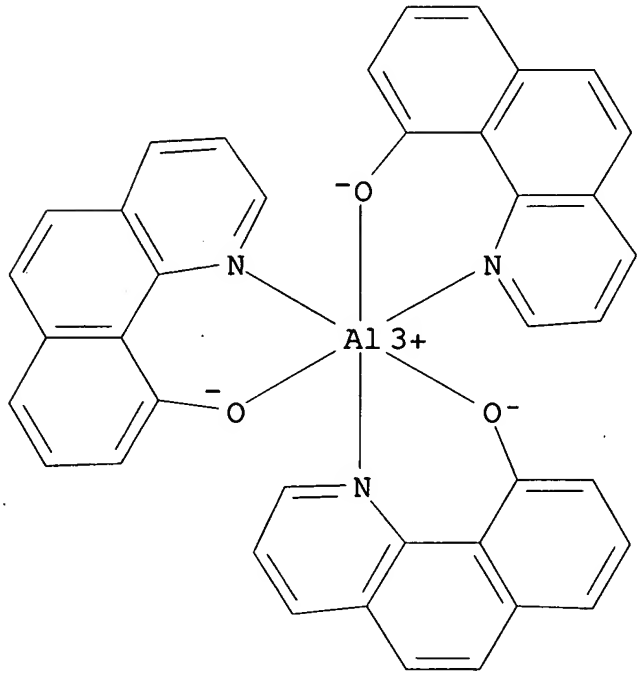
IT **164259-44-3 198903-63-8**
(org. **electroluminescent** device elements)

RN 164259-44-3 HCA

CN Zinc, bis(benzo[h]quinolin-10-olato-.kappa.N1,.kappa.O10)-, (T-4)-(9CI) (CA INDEX NAME)



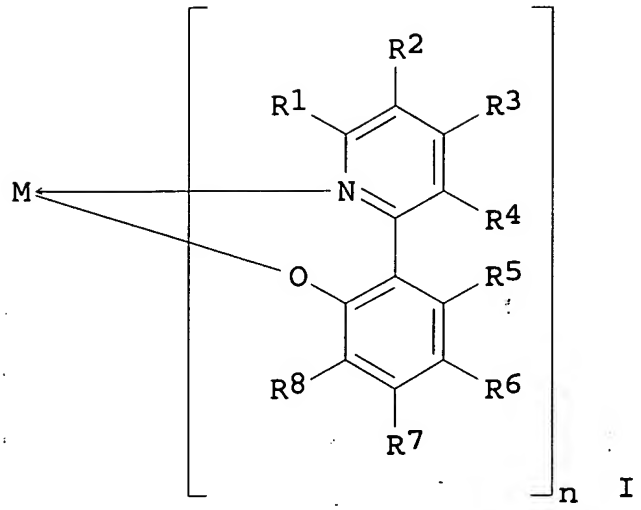
RN 198903-63-8 HCA
CN Aluminum, tris(benzo[h]quinolin-10-olato-.kappa.N1,.kappa.O10)-(9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST **electroluminescent** org phosphor

IT Phosphors
(**electroluminescent**; org. **electroluminescent** device elements)
IT **Electroluminescent** devices
(org. **electroluminescent** device elements)
IT Metallophthalocyanines
Polycarbonates, uses
(org. **electroluminescent** device elements)
IT 517-51-1 905-62-4 980-26-7 1047-16-1 1499-10-1 2085-33-8
7520-01-6 13978-85-3 14642-34-3 15082-28-7 38215-36-0
51325-91-8 58361-82-3 58473-78-2 61843-06-9 65181-78-4
73276-70-7 99762-78-4 123847-85-8 139255-17-7 143010-15-5
146162-54-1 146162-63-2 150405-69-9 151026-65-2
164259-44-3 166444-98-0 185505-35-5 186965-89-9
188049-36-7 188049-37-8 188049-39-0 188049-41-4 189263-95-4
198903-35-4 198903-36-5 198903-37-6 198903-38-7 198903-39-8
198903-40-1 198903-41-2 198903-42-3 198903-43-4 198903-44-5
198903-45-6 198903-46-7 198903-47-8 198903-48-9 198903-49-0
198903-50-3 198903-51-4 198903-52-5 198903-53-6 198903-54-7
198903-55-8 198903-56-9 198903-57-0 198903-58-1 198903-59-2
198903-60-5 198903-61-6 198903-62-7 **198903-63-8**
198903-64-9
(org. **electroluminescent** device elements)

L42 ANSWER 20 OF 23 HCA COPYRIGHT 2005 ACS on STN
127:168833 Material for organic **electroluminescent** device.
Enokida, Toshio; Okutsu, Satoshi; Tamano, Michiko (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09176629 A2 **19970708** Heisei, 16 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1995-336240 19951225.
GI



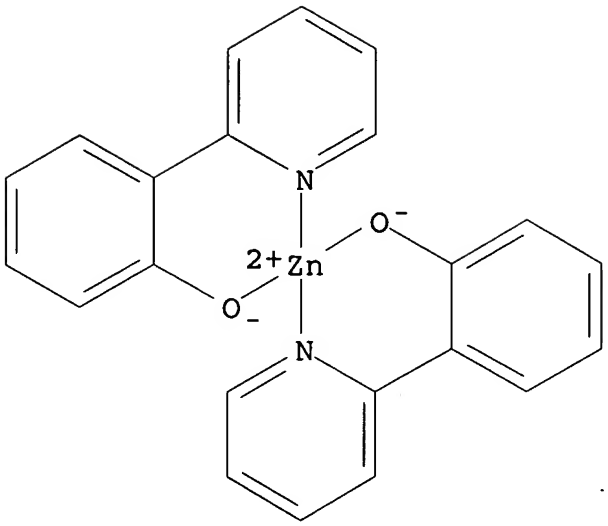
I

AB The invention relates to a material used for an org. **electroluminescent** device, wherein the **light-emitting** layer contains the compd. represented by I [R1-8 = H, halo, alkyl, alkoxy, aryl etc.; R1-4 and R5-8 may form a N-contg. arom. ring with neighboring groups; M = di or tri valent metal; n = 2 or 3].

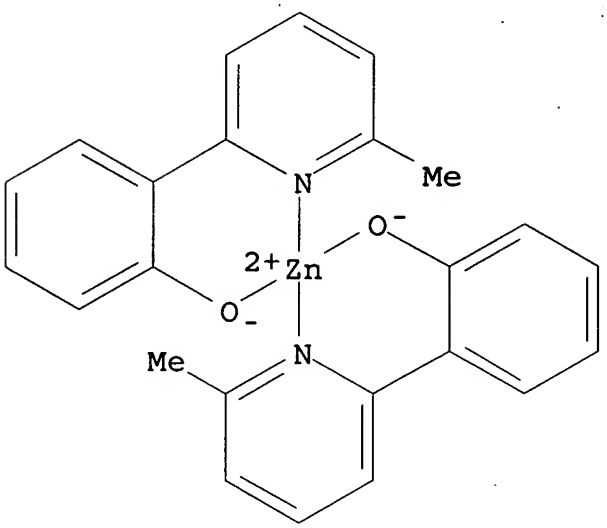
IT **193622-08-1 193622-09-2 193622-10-5**
193622-11-6 193622-12-7 193622-13-8
193622-14-9 193622-15-0 193622-16-1
193622-17-2 193622-18-3 193622-19-4
193622-20-7 193622-21-8 193622-22-9
193622-23-0 193622-33-2 193622-34-3
193622-35-4 193622-38-7 193622-39-8
193622-40-1 193622-41-2 193622-42-3
193622-43-4
(material for org. **electroluminescent** device)

RN 193622-08-1 HCA

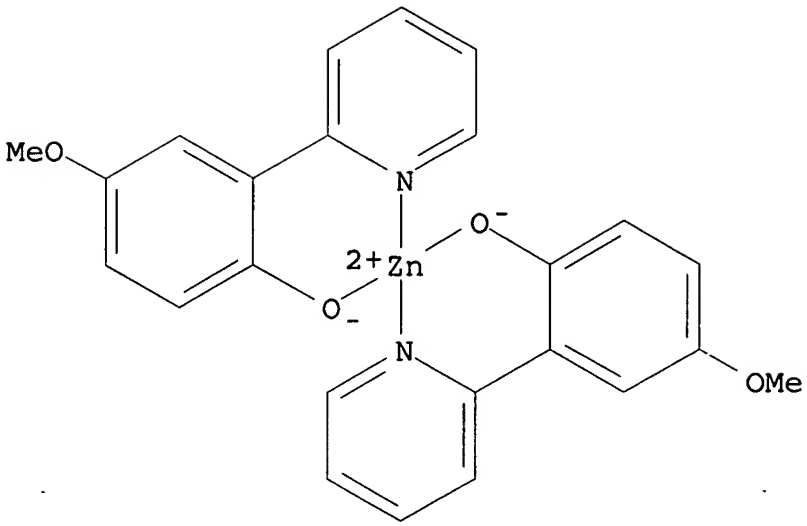
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



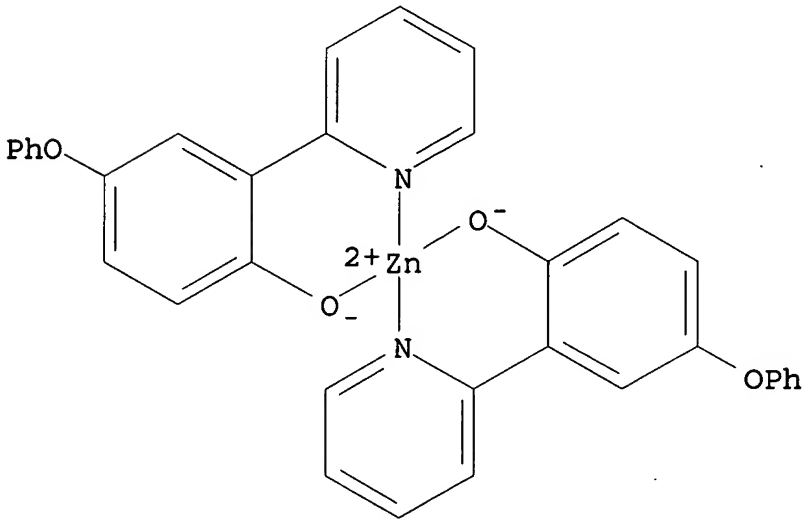
RN 193622-09-2 HCA
CN Zinc, bis[2-(6-methyl-2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



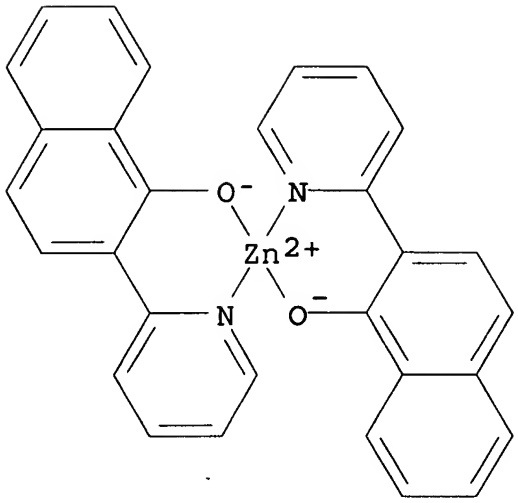
RN 193622-10-5 HCA
CN Zinc, bis[4-methoxy-2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



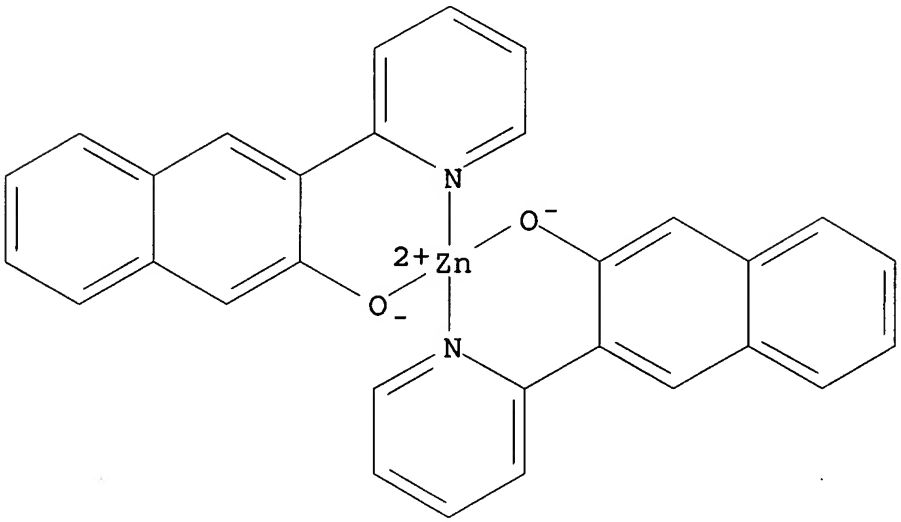
RN 193622-11-6 HCA
CN Zinc, bis[4-phenoxy-2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



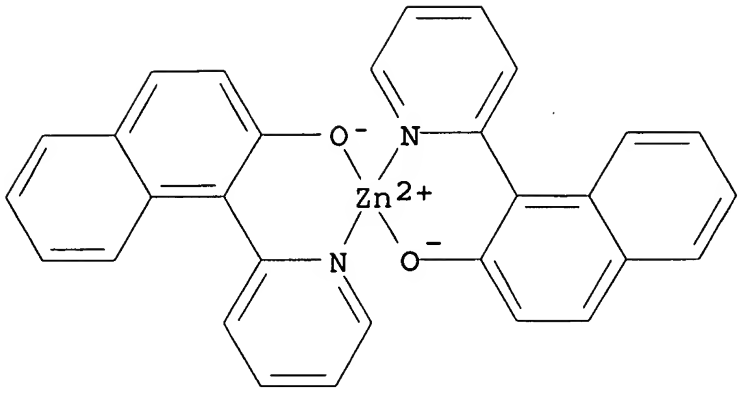
RN 193622-12-7 HCA
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)-1-naphthalenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



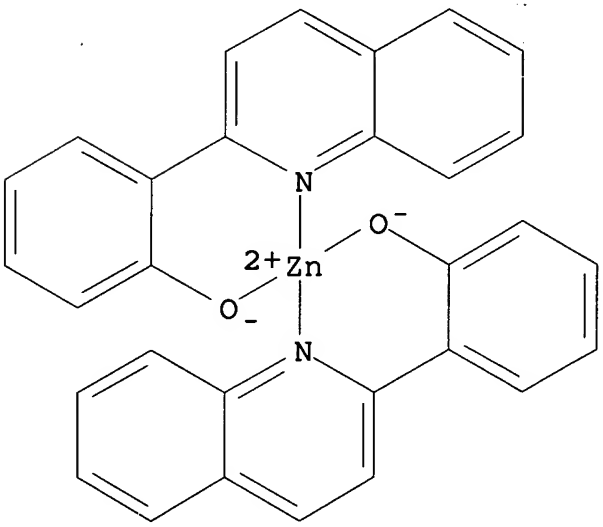
RN 193622-13-8 HCA
CN Zinc, bis[3-(2-pyridinyl-.kappa.N)-2-naphthalenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



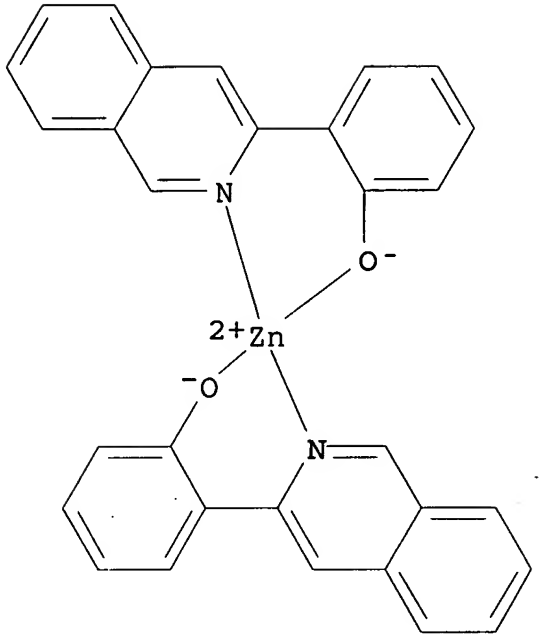
RN 193622-14-9 HCA
CN Zinc, bis[1-(2-pyridinyl-.kappa.N)-2-naphthalenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



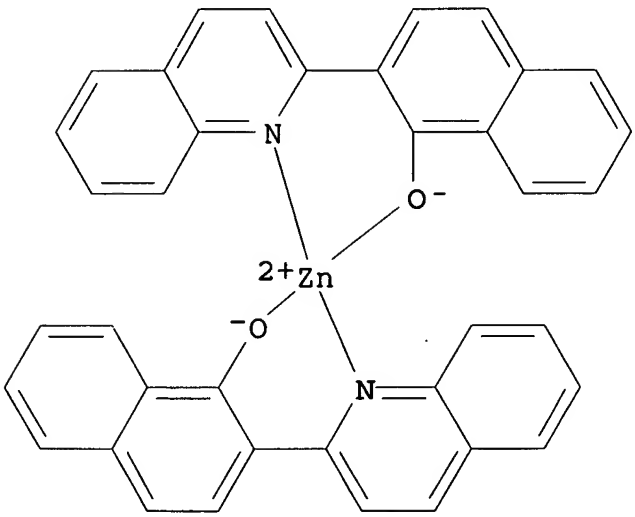
RN 193622-15-0 HCA
CN Zinc, bis[2-(2-quinolinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)-
(9CI) (CA INDEX NAME)



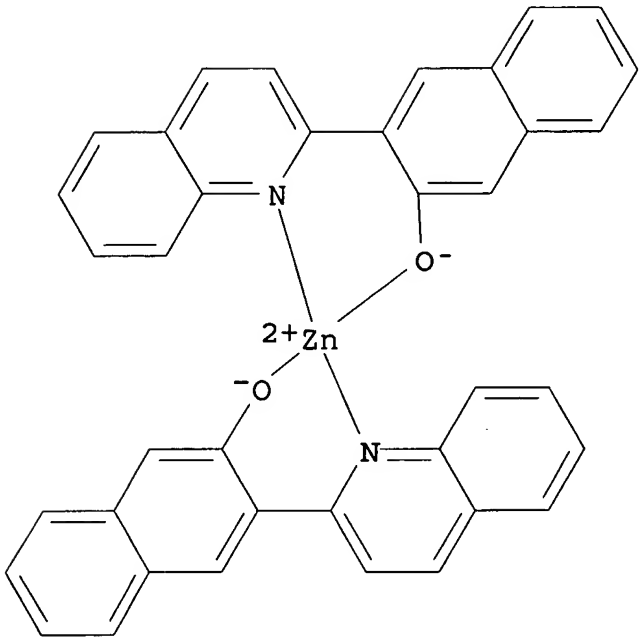
RN 193622-16-1 HCA
CN Zinc, bis[2-(3-isoquinolinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)-
(9CI) (CA INDEX NAME)



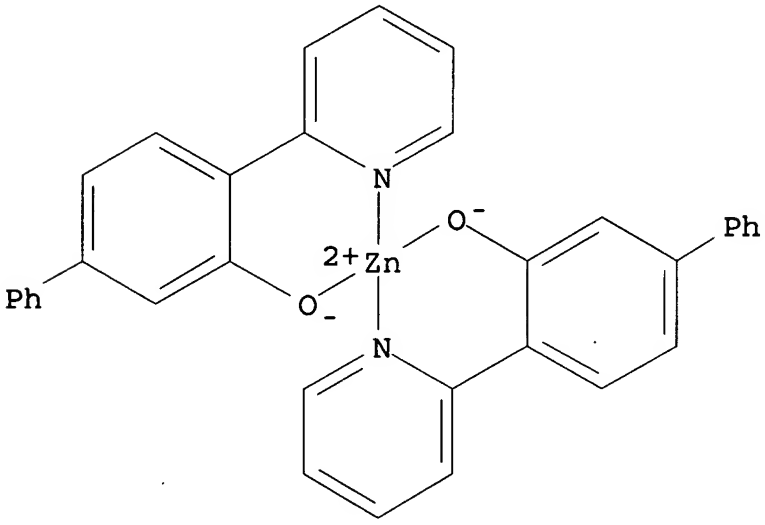
RN 193622-17-2 HCA
CN Zinc, bis[2-(2-quinolinyl-.kappa.N)-1-naphthalenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



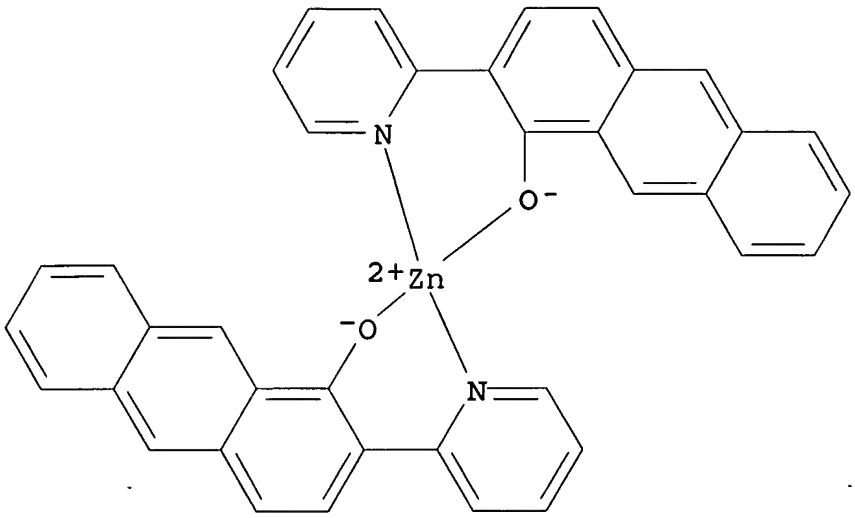
RN 193622-18-3 HCA
CN Zinc, bis[3-(2-quinolinyl-.kappa.N)-2-naphthalenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



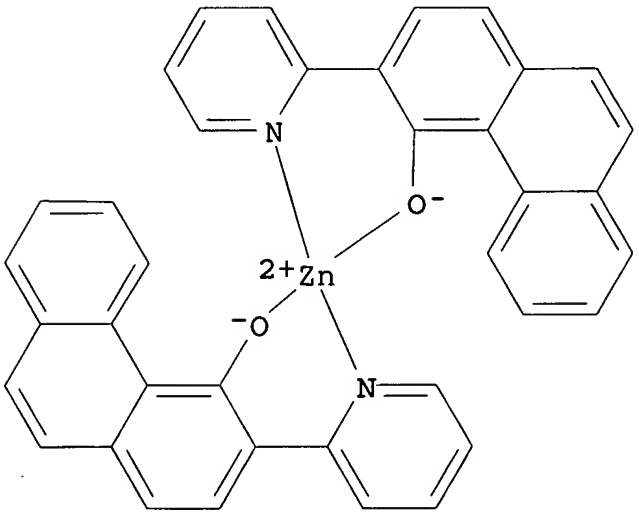
RN 193622-19-4 HCA
CN Zinc, bis[4-(2-pyridinyl-.kappa.N)[1,1'-biphenyl]-3-olato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



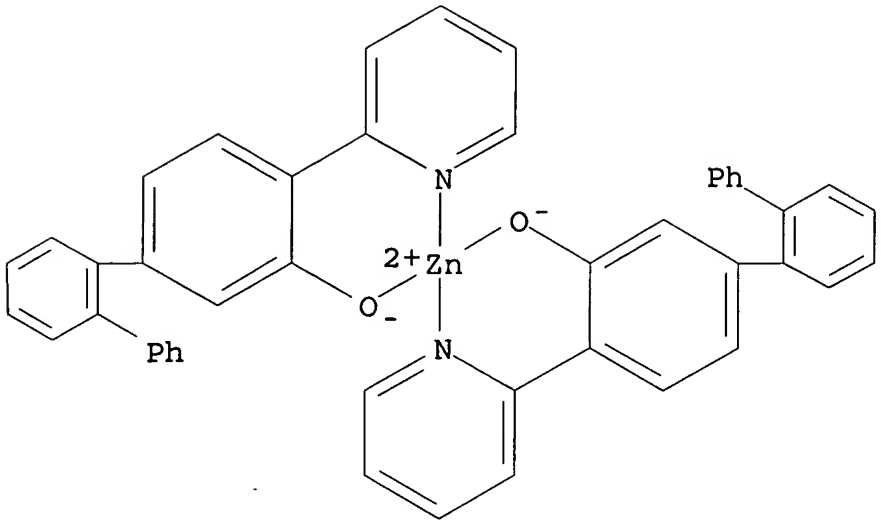
RN 193622-20-7 HCA
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)-1-anthracenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



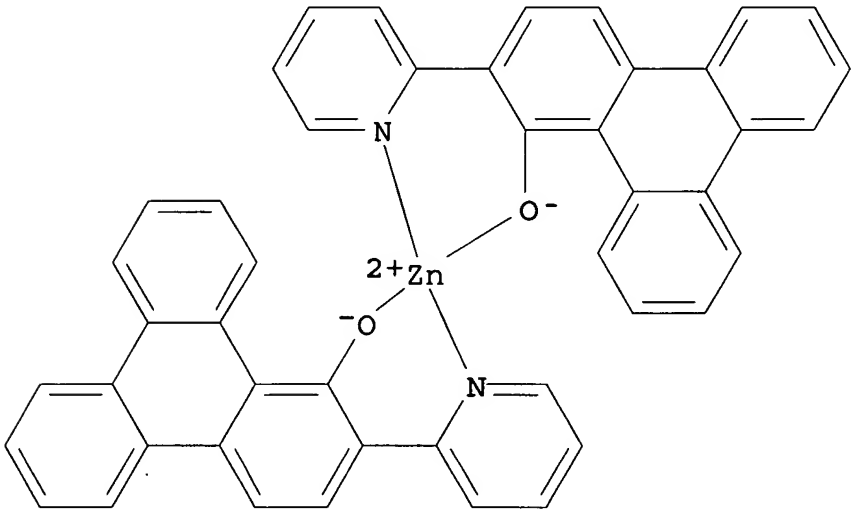
RN 193622-21-8 HCA
CN Zinc, bis[3-(2-pyridinyl-.kappa.N)-4-phenanthrenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



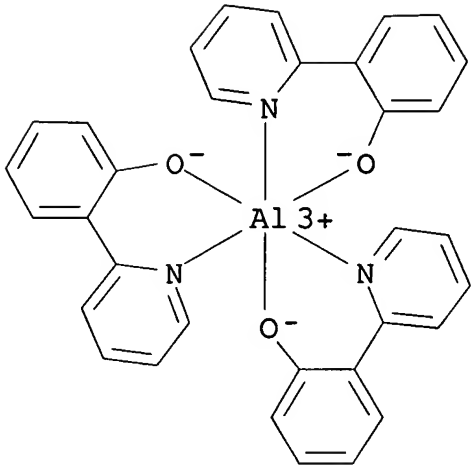
RN 193622-22-9 HCA
CN Zinc, bis[4-(2-pyridinyl-.kappa.N)[1,1':2',1''-terphenyl]-3-olato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



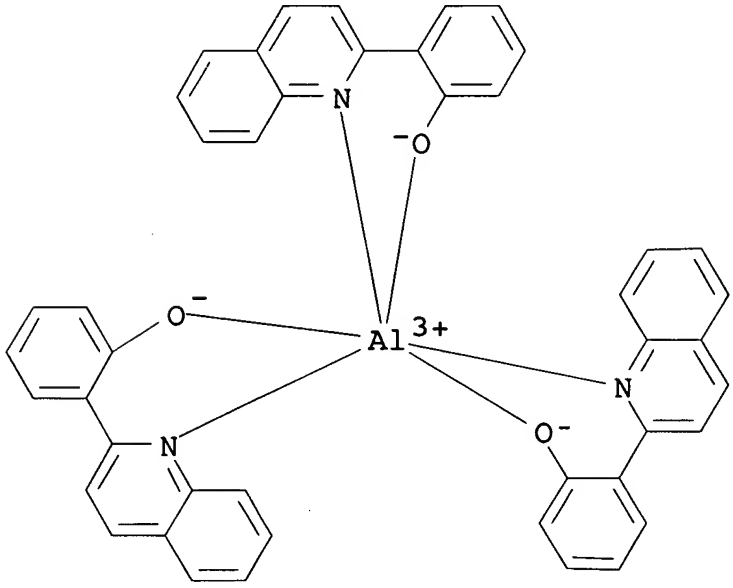
RN 193622-23-0 HCA
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)-1-triphenylenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



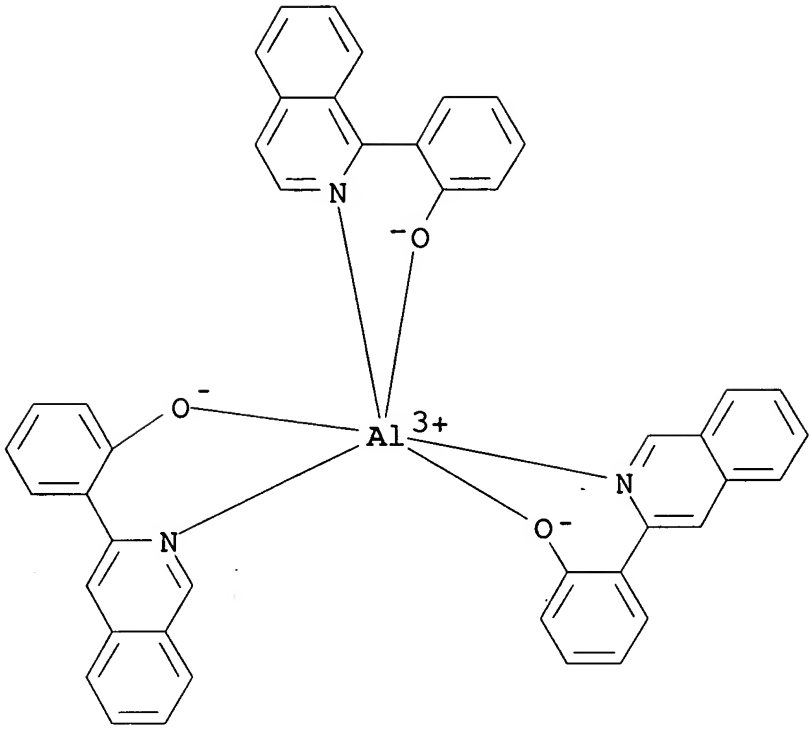
RN 193622-33-2 HCA
CN Aluminum, tris[2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



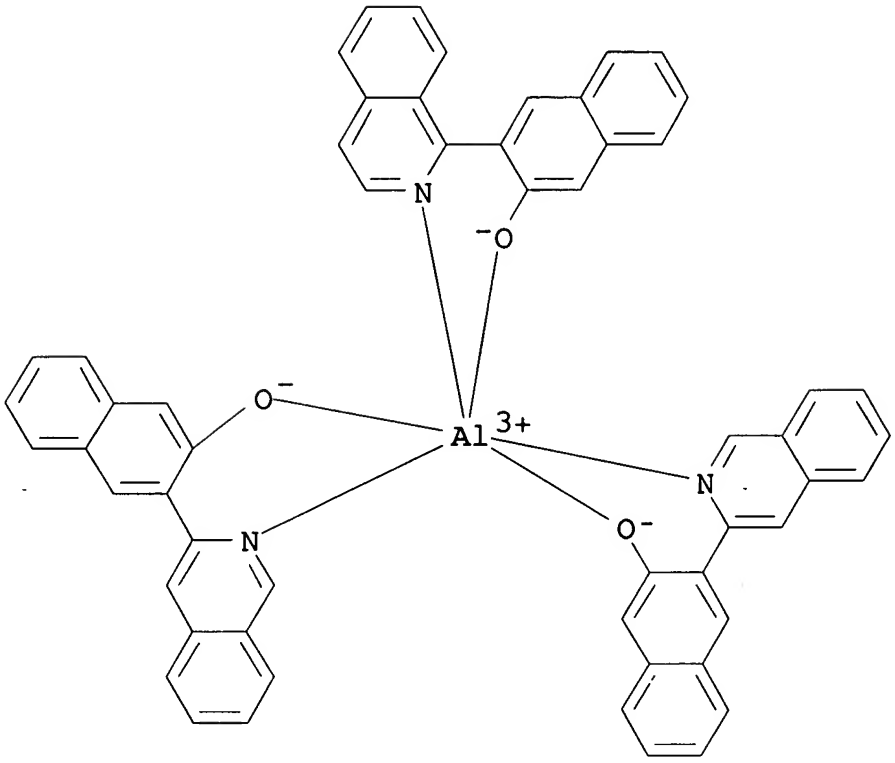
RN 193622-34-3 HCA
CN Aluminum, tris[2-(2-quinolinyl-.kappa.N)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



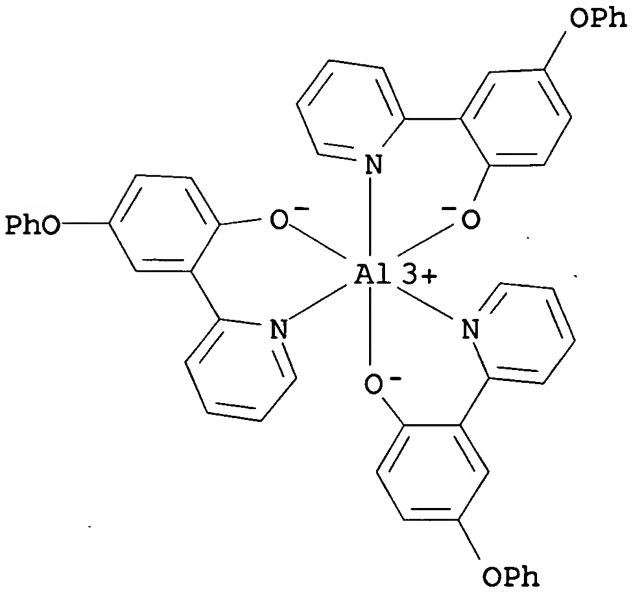
RN 193622-35-4 HCA
CN Aluminum, [2-(1-isoquinolinyl-.kappa.N)phenolato-.kappa.O]bis[2-(3-isoquinolinyl-.kappa.N)phenolato-.kappa.O]- (9CI) (CA INDEX NAME)



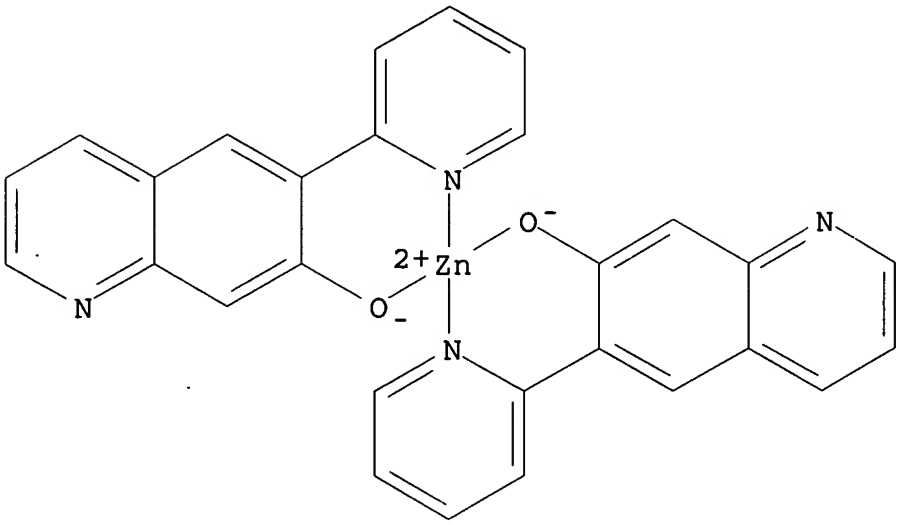
RN 193622-38-7 HCA
CN Aluminum, [3-(1-isoquinolinyl-.kappa.N)-2-naphthalenolato-.kappa.O]bis[3-(3-isoquinolinyl-.kappa.N)-2-naphthalenolato-.kappa.O]- (9CI) (CA INDEX NAME)



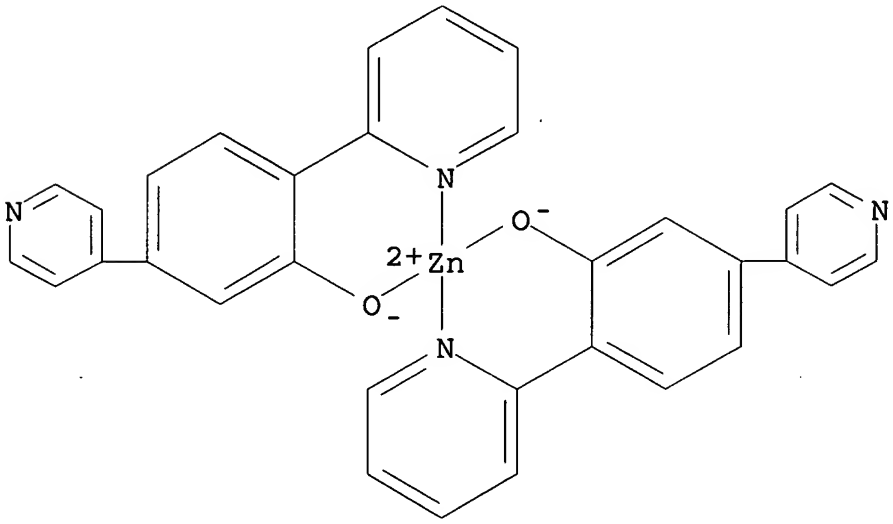
RN 193622-39-8 HCA
CN Aluminum, tris[4-phenoxy-2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-
(9CI) (CA INDEX NAME)



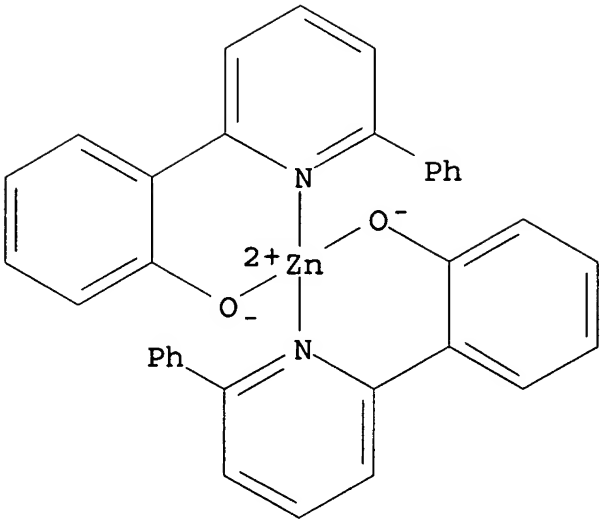
RN 193622-40-1 HCA
CN Zinc, bis[6-(2-pyridinyl-.kappa.N)-7-quinolinolato-.kappa.O7]-, (T-4)- (9CI) (CA INDEX NAME)



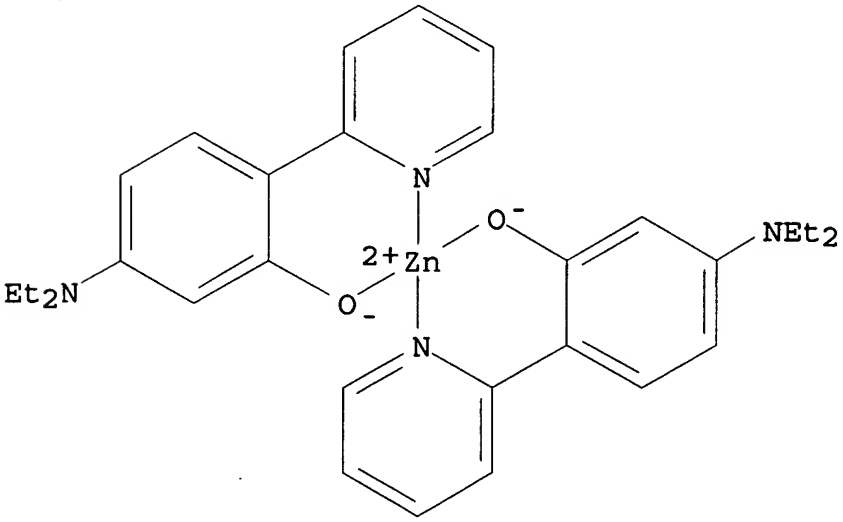
RN 193622-41-2 HCA
CN Zinc, bis[2-(2-pyridinyl-.kappa.N)-5-(4-pyridinyl)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 193622-42-3 HCA
CN Zinc, bis[2-(6-phenyl-2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



RN 193622-43-4 HCA
CN Zinc, bis[5-(diethylamino)-2-(2-pyridinyl-.kappa.N)phenolato-.kappa.O]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device metal complex
IT **Electroluminescent** devices
Fluorescent substances
(material for org. **electroluminescent** device)
IT 1499-10-1 5862-38-4 27310-62-9 51325-91-8 123847-85-8
188049-36-7 189263-95-4 **193622-08-1 193622-09-2**

193622-10-5 193622-11-6 193622-12-7
193622-13-8 193622-14-9 193622-15-0
193622-16-1 193622-17-2 193622-18-3
193622-19-4 193622-20-7 193622-21-8
193622-22-9 193622-23-0 193622-25-2
193622-27-4 193622-29-6 193622-31-0 193622-32-1
193622-33-2 193622-34-3 193622-35-4
193622-36-5 193622-37-6 **193622-38-7 193622-39-8**
193622-40-1 193622-41-2 193622-42-3
193622-43-4
(material for org. **electroluminescent** device)

L42 ANSWER 21 OF 23 HCA COPYRIGHT 2005 ACS on STN
126:231343 Organic **electroluminescent** device with high luminance and reliability and material for it. Tamano, Michiko; Enokida, Toshio (Toyo Ink Mfg Co, Japan). Jpn. Kokai Tokkyo Koho JP 09020886 A2 **19970121** Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-171741 19950707.

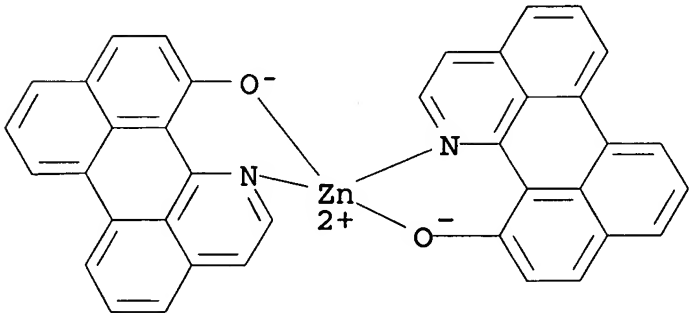
GI For diagram(s), see printed CA Issue.

AB The material is I [A1-7 = 6-membered arom. ring or does not form a ring, where .gtoreq.1 of them form a ring; L = C1-10 alkyl(oxy), C6-20 aryl(oxy); M = metal; m = 1-3; n .gtoreq. 0; m + n = 2, 3]. The device includes I in an emitting layer and/or a cathode.

IT **188045-93-4 188046-22-2 188046-25-5**
188046-29-9 188046-52-8 188046-58-4
188046-64-2 188046-66-4 188046-70-0
188046-76-6 188046-78-8 188046-84-6
(emitting layer; org. **electroluminescent** device with high luminance and reliability)

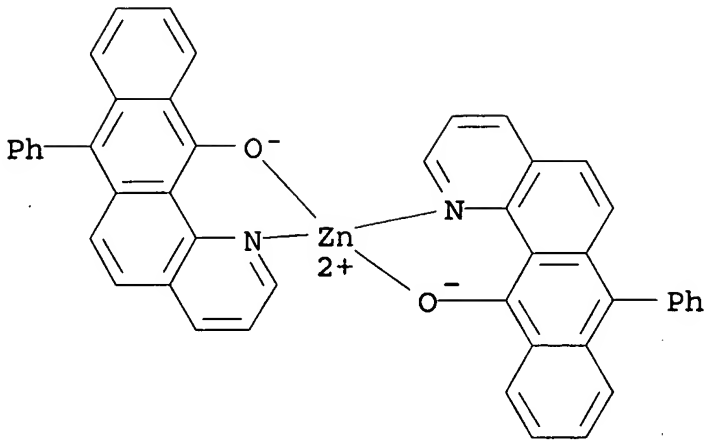
RN 188045-93-4 HCA

CN Zinc, bis(benzo[de]naphtho[1,8-gh]quinolin-2-olato-.kappa.N1,.kappa.O12)-, (T-4)- (9CI) (CA INDEX NAME)

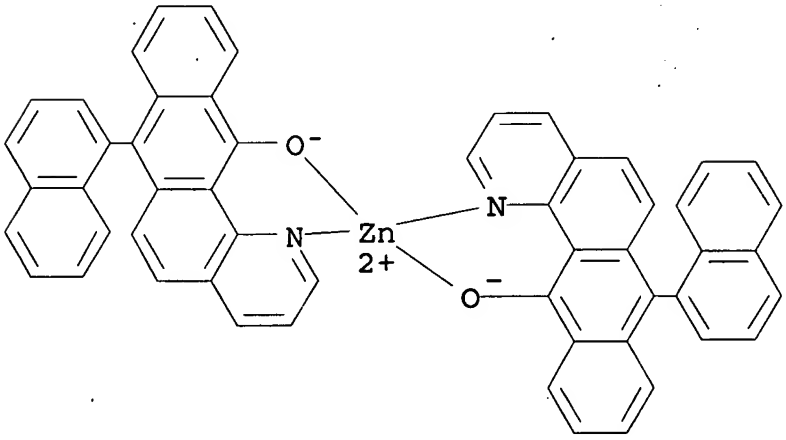


RN 188046-22-2 HCA

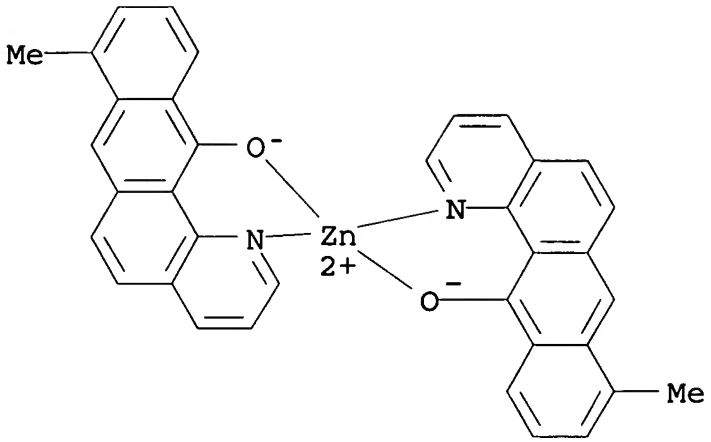
CN Zinc, bis(7-phenylnaphtho[2,3-h]quinolin-12-olato-.kappa.N1,.kappa.O12)-, (T-4)- (9CI) (CA INDEX NAME)



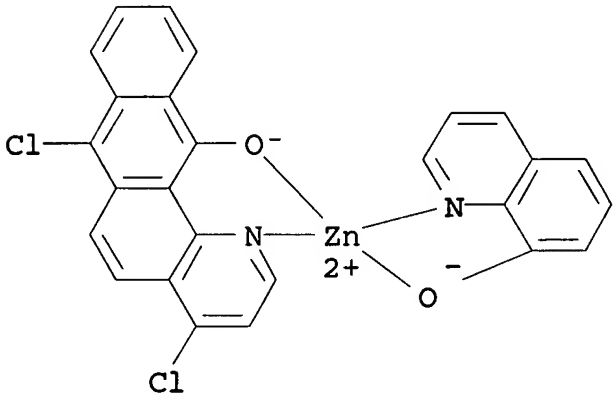
RN 188046-25-5 HCA
CN Zinc, bis[7-(1-naphthalenyl)naphtho[2,3-h]quinolin-12-olato-.kappa.N1,.kappa.O12]-, (T-4)- (9CI) (CA INDEX NAME)



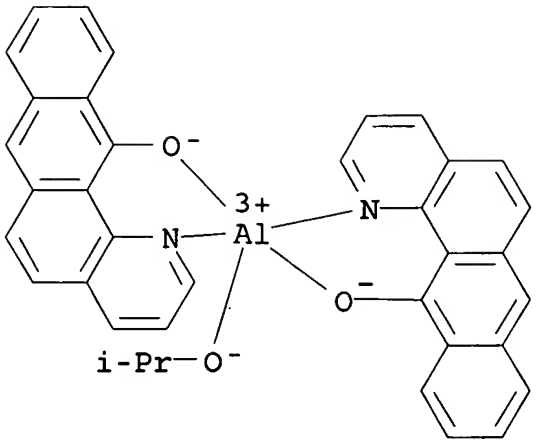
RN 188046-29-9 HCA
CN Zinc, bis(8-methylnaphtho[2,3-h]quinolin-12-olato-.kappa.N1,.kappa.O12)-, (T-4)- (9CI) (CA INDEX NAME)



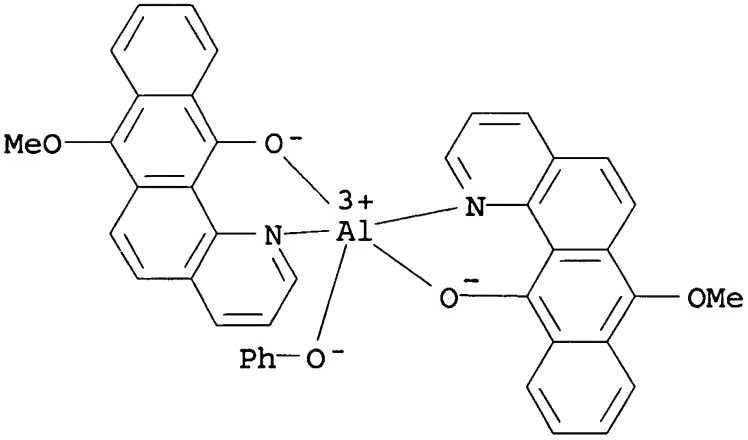
RN 188046-52-8 HCA
CN Zinc, (4,7-dichloronaphtho[2,3-h]quinolin-12-olato-.kappa.N1,.kappa.O12)(8-quinolinolato-.kappa.N1,.kappa.O8)-, (T-4)-(9CI) (CA INDEX NAME)



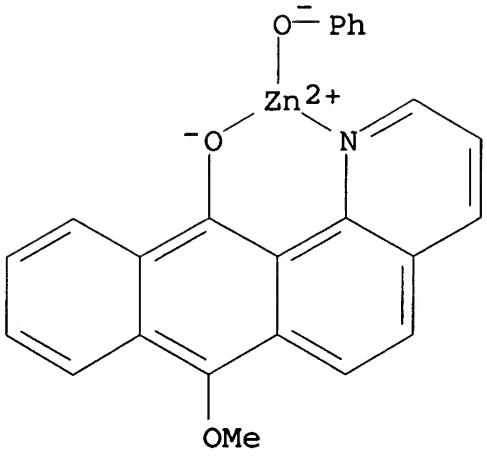
RN 188046-58-4 HCA
CN Aluminum, bis(naphtho[2,3-h]quinolin-12-olato-.kappa.N1,.kappa.O12)(2-propanolato)- (9CI) (CA INDEX NAME)



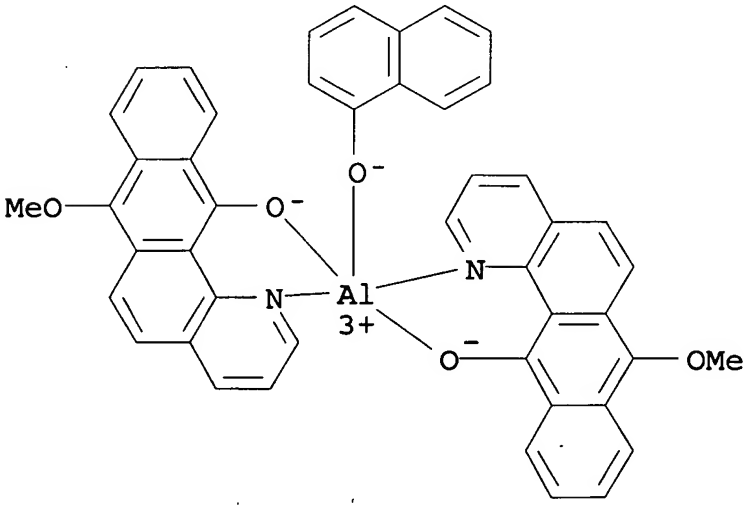
RN 188046-64-2 HCA
CN Aluminum, bis(7-methoxynaphtho[2,3-h]quinolin-12-olato-
.kappa.N1,.kappa.O12)phenoxy- (9CI) (CA INDEX NAME)



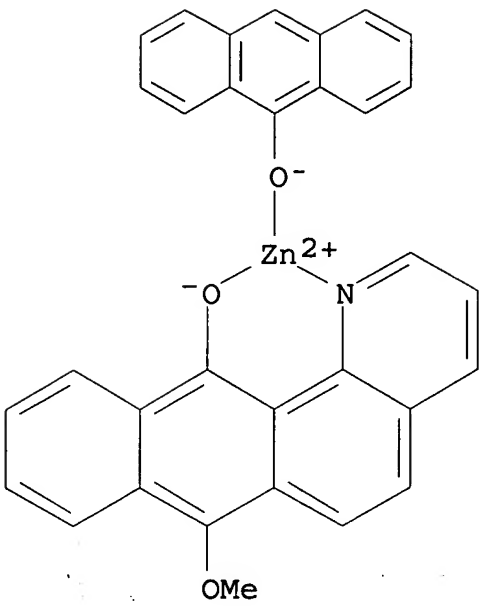
RN 188046-66-4 HCA
CN Zinc, (7-methoxynaphtho[2,3-h]quinolin-12-olato-
.kappa.N1,.kappa.O12)phenoxy- (9CI) (CA INDEX NAME)



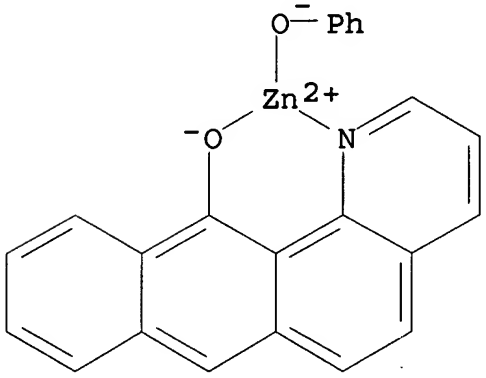
RN 188046-70-0 HCA
CN Aluminum, bis(7-methoxynaphtho[2,3-h]quinolin-12-olato-
.kappa.N1,.kappa.O12)(1-naphthalenolato)- (9CI) (CA INDEX NAME)



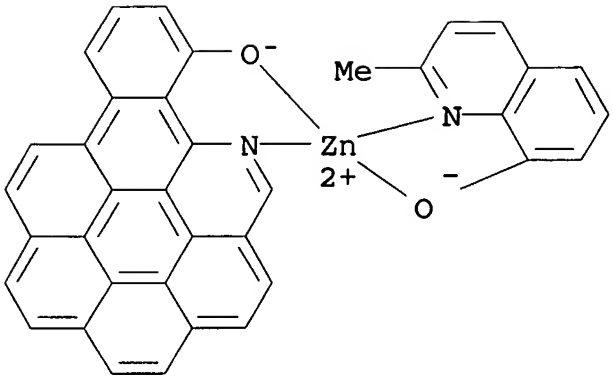
RN 188046-76-6 HCA
CN Zinc, (9-anthracenolato)(7-methoxynaphtho[2,3-h]quinolin-12-olato-
.kappa.N1,.kappa.O12)- (9CI) (CA INDEX NAME)



RN 188046-78-8 HCA
CN Zinc, (naphtho[2,3-h]quinolin-12-olato-.kappa.N1,.kappa.O12)phenoxy-
(9CI) (CA INDEX NAME)



RN 188046-84-6 HCA
CN Zinc, (2-methyl-8-quinolinolato-.kappa.N1,.kappa.O8)(benzo[b]phenant
hro[3,4,5,6-jklmn]thebenidin-9-olato-.kappa.N8,.kappa.O9)-, (T-4)-
(9CI) (CA INDEX NAME)



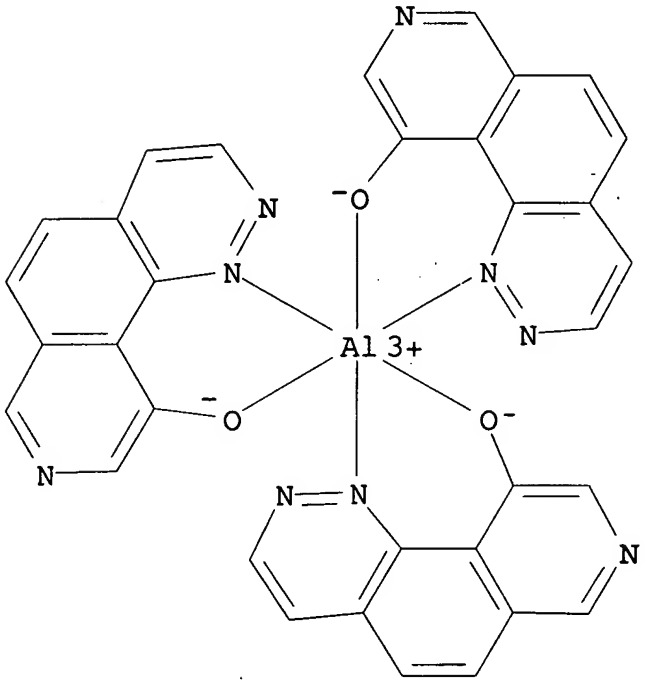
IC ICM C09K011-06
ICS H05B033-14; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29
ST **electroluminescent** device org emitting layer; **electron transporting** metal complex **electroluminescent** reliability; polycondensed ring metal complex emitting **electroluminescent**
IT **Electroluminescent** devices
(org. **electroluminescent** device with high luminance and reliability)
IT **188045-93-4** 188045-98-9 188046-03-9 188046-08-4
188046-13-1 188046-17-5 **188046-22-2** **188046-25-5**
188046-29-9 188046-33-5 188046-37-9 188046-40-4
188046-44-8 188046-48-2 **188046-52-8** 188046-55-1
188046-58-4 188046-60-8 188046-62-0 **188046-64-2**
188046-66-4 188046-68-6 **188046-70-0**
188046-72-2 188046-74-4 **188046-76-6** **188046-78-8**
188046-80-2 188046-82-4 **188046-84-6**
(emitting layer; org. **electroluminescent** device with high luminance and reliability)

L42 ANSWER 22 OF 23 HCA COPYRIGHT 2005 ACS on STN
126:231342 Organic **electroluminescent** device with high luminance and reliability and material for it. Tamano, Michiko; Enokida, Toshio (Toyo Ink Mfg Co, Japan). Jpn. Kokai Tokkyo Koho JP 09020885 A2 **19970121** Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-171740 19950707.
GI For diagram(s), see printed CA Issue.
AB The material is I [ring A1-3 = condensed 6-membered arom. rings; L = C1-10 alkyl(oxy), C6-20 aryl(oxy); M = metal; m = 1-3; n .gtoreq. 0; m + n = 2, 3]. The device includes I in an emitting layer and/or a cathode.

IT **188045-99-0 188046-04-0 188046-14-2**
188046-26-6 188046-30-2 188046-34-6
188046-38-0 188046-53-9 188046-59-5
188046-61-9 188046-67-5 188046-81-3
(emitting layer; org. **electroluminescent** device with high luminance and reliability)

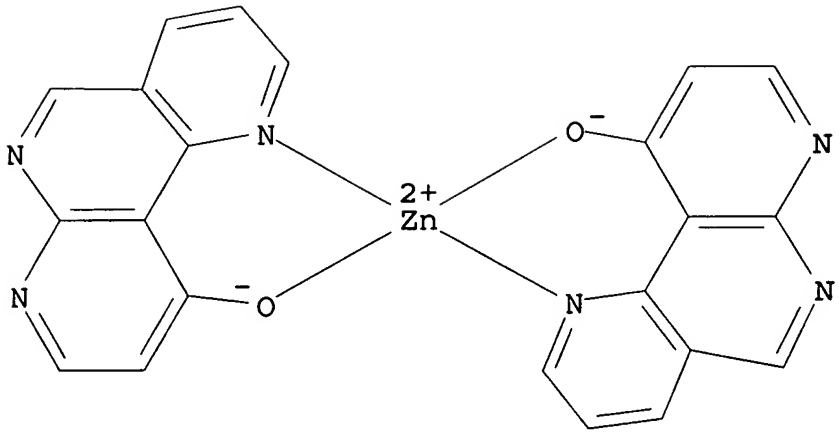
RN 188045-99-0 HCA

CN Aluminum, tris(pyrido[3,4-h]cinnolin-10-olato-.kappa.N1,.kappa.O10)-(9CI) (CA INDEX NAME)

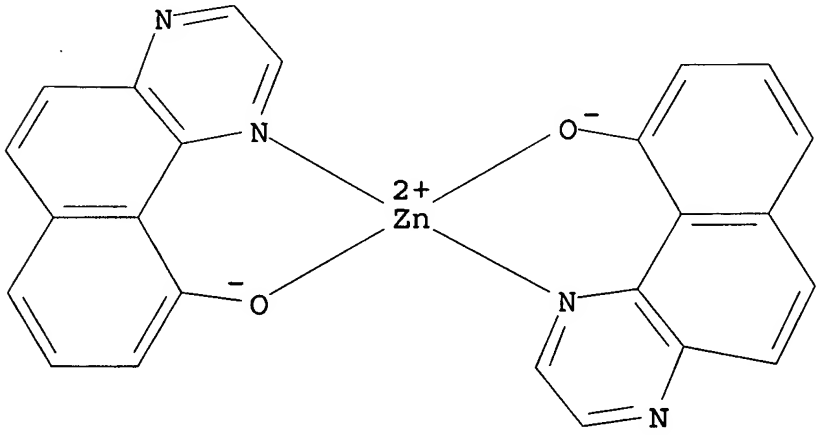


RN 188046-04-0 HCA

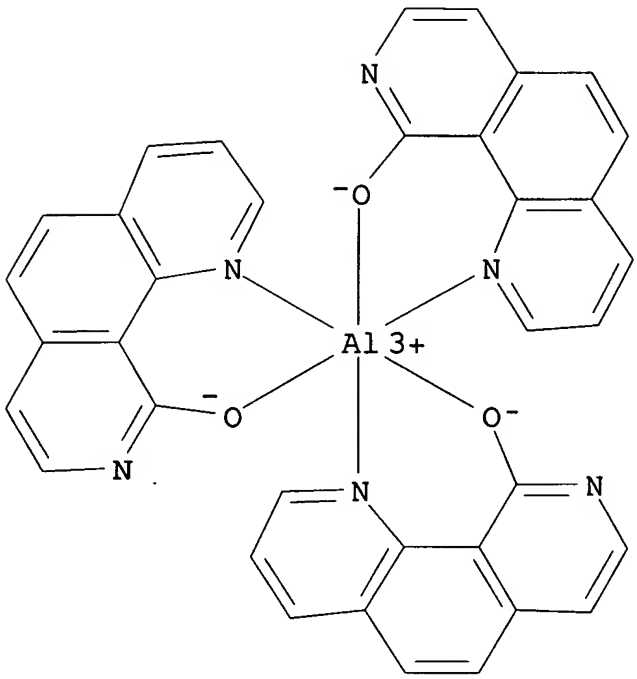
CN Zinc, bis(pyrido[2,3-h]-1,6-naphthyridin-10-olato-.kappa.N1,.kappa.O10)-, (T-4)- (9CI) (CA INDEX NAME)



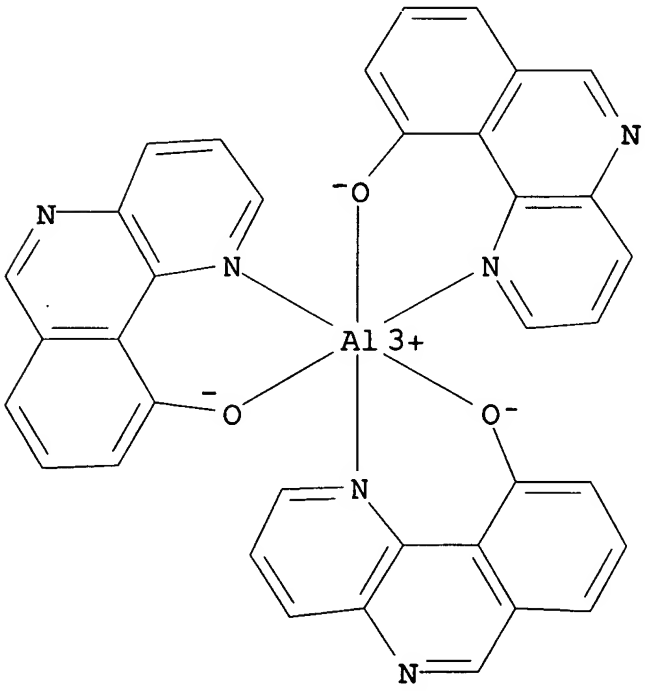
RN 188046-14-2 HCA
CN Zinc, bis(benzo[f]quinoxalin-10-olato-.kappa.N1,.kappa.O10)-, (T-4)-
(9CI) (CA INDEX NAME)



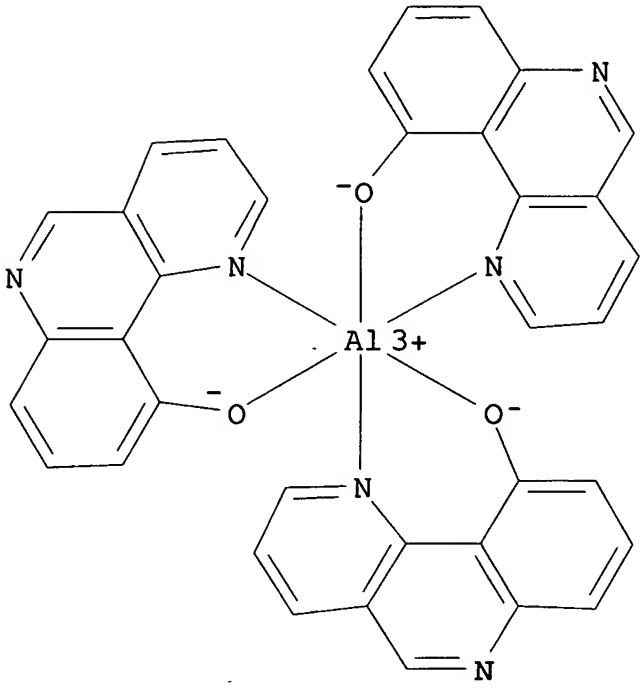
RN 188046-26-6 HCA
CN Aluminum, tris(1,9-phenanthrolin-10-olato-.kappa.N1,.kappa.O10)-
(9CI) (CA INDEX NAME)



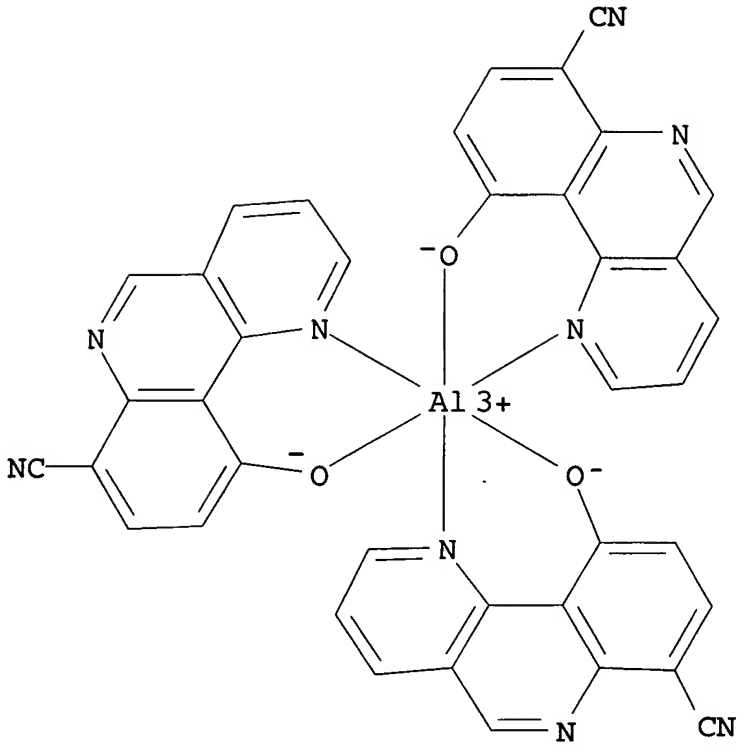
RN 188046-30-2 HCA
CN Aluminum, tris(benzo[c]-1,5-naphthyridin-10-olato-.kappa.N1,.kappa.O10)- (9CI) (CA INDEX NAME)



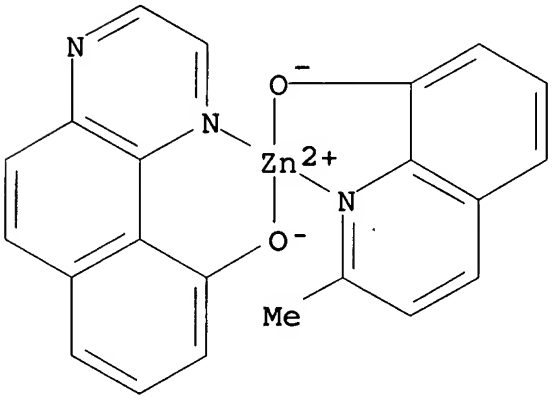
RN 188046-34-6 HCA
CN Aluminum, tris(benzo[h]-1,6-naphthyridin-10-olato-.kappa.N1,.kappa.O10)- (9CI) (CA INDEX NAME)



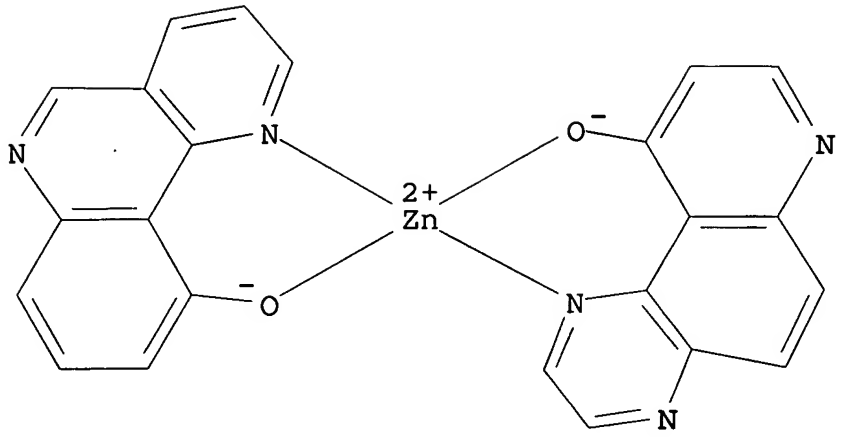
RN 188046-38-0 HCA
CN Aluminum, tris[10-(hydroxy-.kappa.O)benzo[h]-1,6-naphthyridine-7-carbonitrilato-.kappa.N1]- (9CI) (CA INDEX NAME)



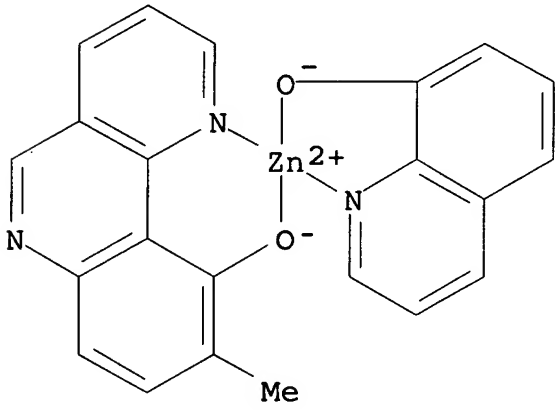
RN 188046-53-9 HCA
CN Zinc, (benzo[f]quinoxalin-10-olato-.kappa.N1,.kappa.O10)(2-methyl-8-quinolinolato-.kappa.N1,.kappa.O8)-, (T-4)- (9CI) (CA INDEX NAME)



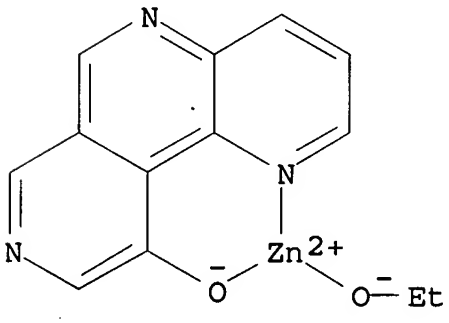
RN 188046-59-5 HCA
CN Zinc, (benzo[h]-1,6-naphthyridin-10-olato-.kappa.N1,.kappa.O10)(pyrido[3,2-f]quinoxalin-10-olato-.kappa.N1,.kappa.O10)-, (T-4)- (9CI) (CA INDEX NAME)



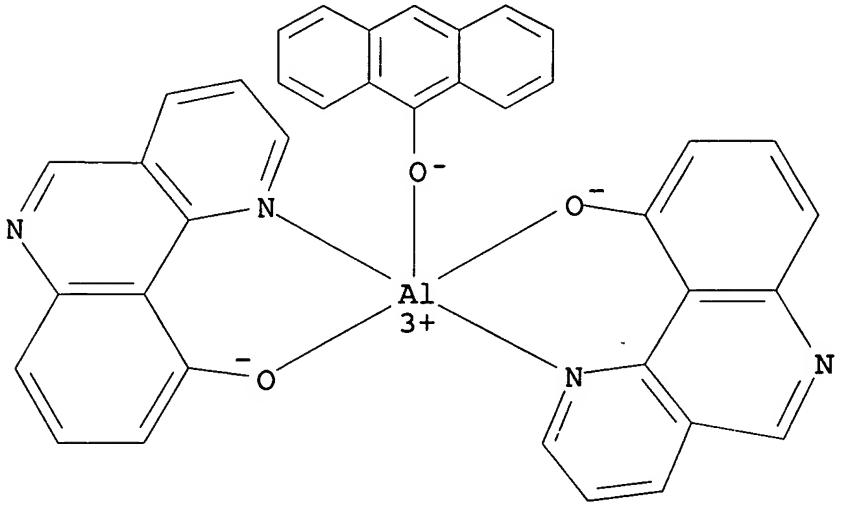
RN 188046-61-9 HCA
CN Zinc, (9-methylbenzo[h]-1,6-naphthyridin-10-olato-.kappa.N1,.kappa.O10)(8-quinolinolato-.kappa.N1,.kappa.O8)-, (T-4)-(9CI) (CA INDEX NAME)



RN 188046-67-5 HCA
CN Zinc, ethoxy(pyrido[3,4-c]-1,5-naphthyridin-10-olato-.kappa.N1,.kappa.O10)- (9CI) (CA INDEX NAME)



RN 188046-81-3 HCA
CN Aluminum, (9-anthracenolato)bis(benzo[h]-1,6-naphthyridin-10-olato-.kappa.N1,.kappa.O10)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29
ST **electroluminescent** device org emitting layer; **electron transporting** metal complex **electroluminescent** reliability
IT **Electroluminescent** devices
(org. **electroluminescent** device with high luminance and reliability)
IT 188045-89-8 188045-94-5 **188045-99-0 188046-04-0**
188046-09-5 **188046-14-2** 188046-18-6 188046-23-3
188046-26-6 188046-30-2 188046-34-6
188046-38-0 188046-41-5 188046-45-9 188046-49-3
188046-53-9 188046-56-2 **188046-59-5**
188046-61-9 188046-63-1 188046-65-3 **188046-67-5**
188046-69-7 188046-71-1 188046-73-3 188046-75-5 188046-77-7
188046-79-9 **188046-81-3** 188046-83-5
(emitting layer; org. **electroluminescent** device with high luminance and reliability)

L42 ANSWER 23 OF 23 HCA COPYRIGHT 2005 ACS on STN
124:301973 New organometallic complexes for use in **light emitting** devices. Shi, Song Q. (Motorola, Inc., USA). Eur. Pat. Appl. EP 700917 A2 **19960313**, 19 pp. DESIGNATED

STATES: R: DE, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1995-114039 19950907. PRIORITY: US 1994-304451 19940912.

GI

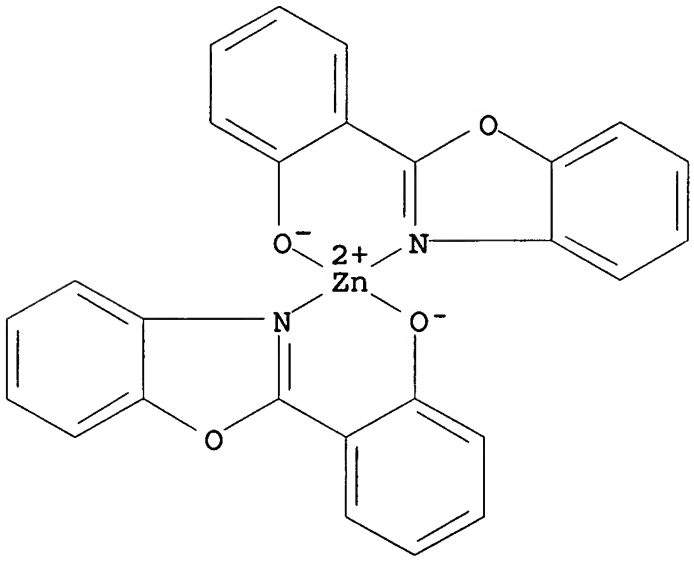
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Organometallic complexes for use in **electroluminescent** (**EL**) devices are described by the general formulas I an II (M2 = a divalent metal; M3 = a trivalent metal; X = O, S, NH, or CH2; R1-8 = H or hydrocarbon groups or functional groups; and L1-5 = H or hydrocarbon groups or functional groups). The organometallic complexes may be prepd. by mixing org. ligands with metal salts. **Electroluminescent** devices employing the organometallic materials in the **light emission** layers are also described. Fabrication of the devices entails sequential formation on a glass substrate of a transparent conductor layer, a hole-transporting layer, an emiting layer comprising the complexes, and a conductive layer.

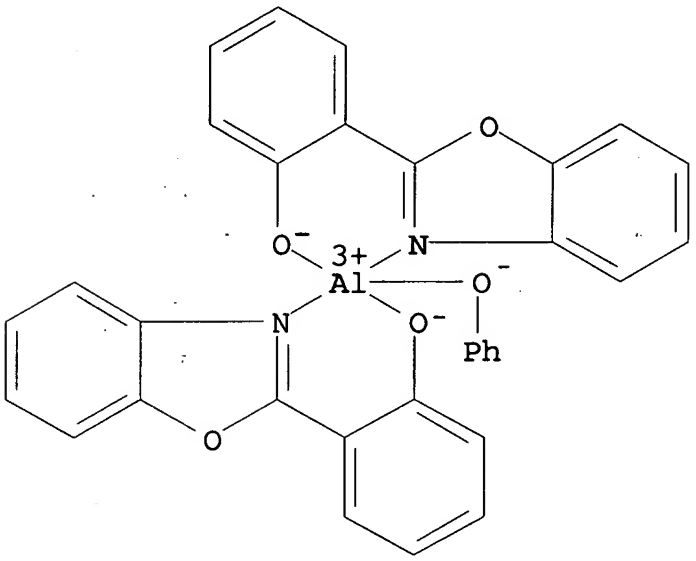
IT **23467-27-8**
(organometallic complexes for use in **light-emitting** devices and their prepn. and the devices and their fabrication)

RN 23467-27-8 HCA

CN Zinc, bis[2-(2-benzoxazolyl-.kappa.N3)phenolato-.kappa.O]-, (T-4)-(9CI) (CA INDEX NAME)



IT **176045-96-8P**
(organometallic complexes for use in **light-emitting** devices and their prepn. and the devices and their fabrication)
RN 176045-96-8 HCA
CN Aluminum, bis[2-(2-benzoxazolyl-.kappa.N3)phenolato-.kappa.O]phenoxy- (9CI) (CA INDEX NAME)



IC ICM C07F005-00
ICS H01L033-00
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29
ST **light emitting** device organometallic complex
IT **Electroluminescent** devices
(organometallic complexes for use in **light-emitting** devices and their prepn. and the devices and their fabrication)
IT 7439-95-4D, Magnesium, compds. 7440-55-3D, Gallium, compds. 7440-74-6D, Indium, compds. **23467-27-8**
(organometallic complexes for use in **light-emitting** devices and their prepn. and the devices and their fabrication)
IT 128904-10-9P **176045-96-8P**
(organometallic complexes for use in **light-emitting** devices and their prepn. and the devices and their fabrication)
IT 108-95-2, Phenol, reactions 835-64-3, 2-(2-Hydroxyphenyl)benzoxazole 2963-66-8, 2-(2-

Hydroxyphenyl)benzimidazole 3411-95-8, 2-(2-Hydroxyphenyl)benzothiazole 7446-70-0, Aluminum chloride, reactions 13510-49-1, Beryllium sulfate
(organometallic complexes for use in **light-emitting** devices and their prepn. and the devices and their fabrication)

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FILE 'REGISTRY' ENTERED AT 21:33:16 ON 14 DEC 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 American Chemical Society (ACS)


=> d his

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L4             STR L1

     FILE 'REGISTRY' ENTERED AT 21:09:22 ON 14 DEC 2005
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L6        2226 S L4 FUL
                SAV L6 GAR451/A
L7          15 S L1 SSS SAM SUB=L6
L8             STR L1
L9           1 S L8 SSS SAM SUB=L6
L10         22 S L8 SSS FUL SUB=L6
                SAV L10 GAR451A/A
L11          0 S L2 SSS SAM SUB=L6
L12         17 S L2 SSS FUL SUB=L6
                SAV L12 GAR700/A

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     FILE 'ZCAPLUS' ENTERED AT 21:18:01 ON 14 DEC 2005
L15         91 S L12
L16         95 S L10

     FILE 'HCA' ENTERED AT 21:18:30 ON 14 DEC 2005
L17         91 S L12
L18         95 S L10
L19      98759 S (ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO OR
L20      53577 S (ELECTRON# OR E)(2A)(TRANSPORT? OR MIGRAT? OR MOVE# OR
L21         91 S L17 AND L18
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L22          87 S L21 AND (L19 OR L20)

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     FILE 'REGISTRY' ENTERED AT 21:24:10 ON 14 DEC 2005
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L25          10 S L23 SSS FUL SUB=L6
                SAV L25 GAR700A/A
L26             STR L8
L27           1 S L26 SSS SAM SUB=L6
L28          20 S L26 SSS FUL SUB=L6
                SAV L28 GAR451B/A

     FILE 'HCA' ENTERED AT 21:28:16 ON 14 DEC 2005
L29          90 S L25
L30          94 S L28
L31          90 S L29 AND L30
L32          86 S L31 AND (L19 OR L20)
L33          90 S L30 AND (L19 OR L20)
L34           4 S L33 NOT L32
L35          57 S L32 AND (1840-2002/PY OR 1840-2002/PRY)

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=> d l25 que stat
L4              STR
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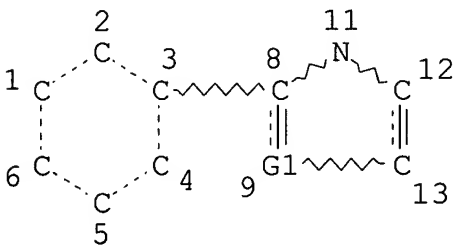


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NODE ATTRIBUTES:
CONNECT IS E3  RC AT   1
CONNECT IS E3  RC AT   5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  11
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STEREO ATTRIBUTES: NONE
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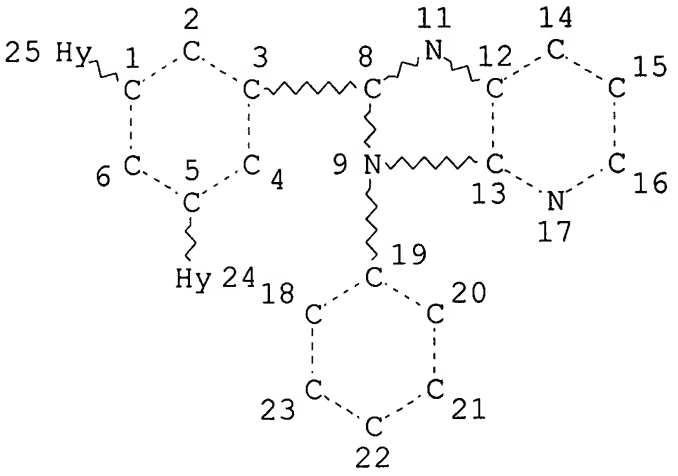
L23 STR



NODE ATTRIBUTES:
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GGCAT IS PCY UNS AT 24
GGCAT IS PCY UNS AT 25
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS E3 N AT 24
ECOUNT IS E3 N AT 25

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L25 10 SEA FILE=REGISTRY SUB=L6 SSS FUL L23

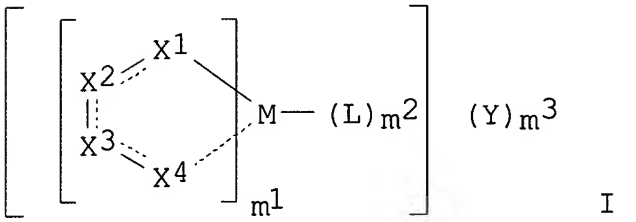
100.0% PROCESSED 74 ITERATIONS 10 ANSWERS
SEARCH TIME: 00.00.01

=> file hca
FILE 'HCA' ENTERED AT 21:35:01 ON 14 DEC 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

=> d 135 1-57 cbib abs hitstr hitind

L35 ANSWER 1 OF 57 HCA COPYRIGHT 2005 ACS on STN
141:131053 Organic **electroluminescent** device having **light-emitting** layer containing metal complex as host material. Igarashi, Tatsuya; Ise, Toshihiro (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2004137268 A1 20040715, 20 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-743023 20031223. PRIORITY: JP 2002-382453 20021227; JP 2003-408525 20031208.

GI



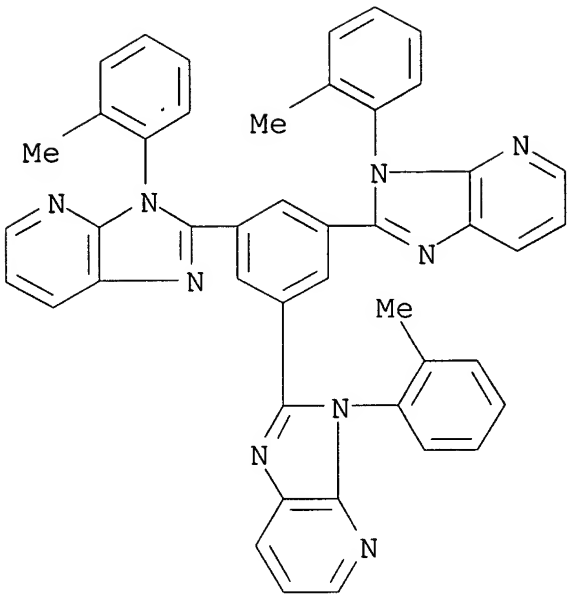
I

AB Org. **electroluminescent** devices are described which comprise a pair of electrodes; and at least 1 org. compd. layer between the pair of electrodes, the at least 1 org. compd. layer including a **light emitting** layer, where the **light emitting** layer contains at least one host material and at least one luminescent material, and the host material is a compd. represented by the formula (I), where X1-4 each independently represent a substituted or unsubstituted O atom, a substituted or unsubstituted S atom, a substituted or unsubstituted N atom, a substituted or unsubstituted C atom or a substituted or unsubstituted P atom; M represents a metal ion; L represents a ligand; Y represents a counter ion; m1 represents an integer of 1 to 4; m2 represents an integer of 0 to 6; m3 represents an integer of 0 to 4; and the X1-X2 bond, the X2-X3 bond, and the X3-X4 bond is a single bond or a double bond; with the proviso that a compd. in which the ligand composed of X1-4 is not derived from an 8-hydroxyquinolinol deriv.

IT **358974-66-0**
(org. **electroluminescent** device having **light-emitting** layer contg. metal complex as host material)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
INCL 428690000; 428917000; 313504000; 257102000; 257103000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78
ST org **electroluminescent** device host metal complex
OLED
IT **Electroluminescent** devices
(org. **electroluminescent** device having **light-emitting** layer contg. metal complex as host material)
IT Coordination compounds
(org. **electroluminescent** device having **light-emitting** layer contg. metal complex as host material)
IT 32537-08-9 58280-31-2 58328-31-7, CBP 65181-78-4, TPD 94928-86-6, Tris(2-phenylpyridine), iridium 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl 351863-09-7 **358974-66-0** 387859-70-3 462648-27-7
(org. **electroluminescent** device having **light-emitting** layer contg. metal complex as host material)

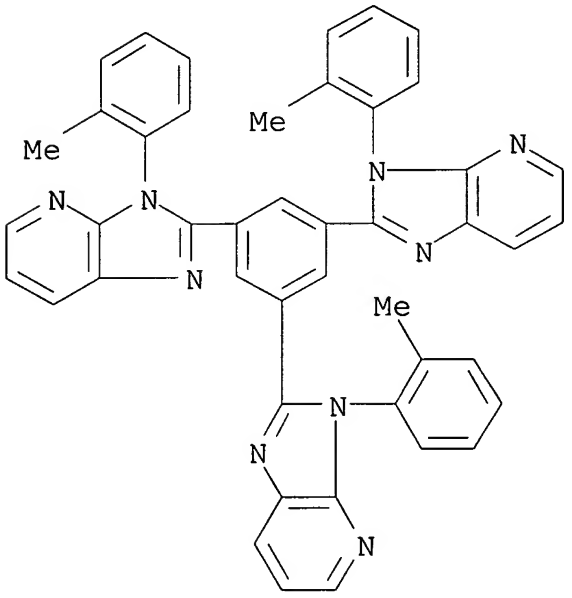
L35 ANSWER 2 OF 57 HCA COPYRIGHT 2005 ACS on STN
141:131052 Organic **electroluminescent** device with **light-emitting** layer containing a metal complex as a host material. Igarashi, Tatsuya; Ise, Toshihiro (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2004137267 A1 20040715, 20 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-738307 20031218. PRIORITY: JP 2002-382454 20021227.

AB Org. **electroluminescent** devices are described which comprise a pair of electrodes; and at least one org. compd. layer including a **light-emitting** layer between the pair of electrodes, where the **light-emitting** layer contains at least one host material and at least one luminescent material, and the host material is a metal complex contg. a metal in groups 4 to 11 or periods 5 to 6 of the Periodic Table.

IT **358974-66-0 377092-10-9**
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)

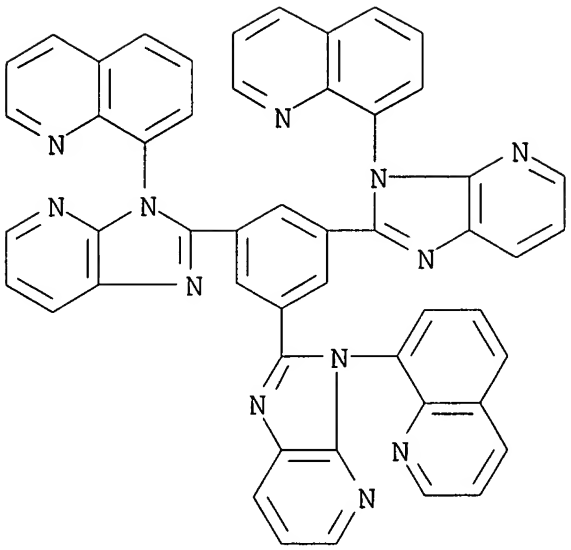
RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



RN 377092-10-9 HCA

CN Quinoline, 8,8',8''-[1,3,5-benzenetriyltris(3H-imidazo[4,5-b]pyridine-2,3-diyl)]tris- (9CI) (CA INDEX NAME)



IC ICM B32B009-00
ICS B32B019-00
INCL 428690000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78
ST org **electroluminescent** device metal complex host **OLED**
IT **Electroluminescent** devices
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)
IT Rare earth complexes
Transition metal complexes
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)
IT **Luminescent** substances
Phosphorescent substances
(**org. electroluminescent** device with **light-emitting** layer contg. metal complex as host material and)
IT 7439-89-6D, Iron, compds. 7439-96-5D, Manganese, compds. 7439-98-7D, Molybdenum, compds. 7440-02-0D, Nickel, compds. 7440-04-2D, Osmium, compds. 7440-05-3D, Palladium, compds. 7440-15-5D, Rhenium, compds. 7440-17-7D, Rubidium, compds. 7440-18-8D, Ruthenium, compds. 7440-22-4D, Silver, compds. 7440-24-6D, Strontium, compds. 7440-30-4D, Thulium, compds. 7440-31-5D, Tin, compds. 7440-32-6D, Titanium, compds. 7440-33-7D, Tungsten, compds. 7440-36-0D, Antimony, compds. 7440-39-3D, Barium, compds. 7440-46-2D, Cesium, compds.

7440-50-8D, Copper, compds. 7440-54-2D, Gadolinium, compds.
7440-57-5D, Gold, compds. 7440-67-7D, Zirconium, compds.
7440-74-6D, Indium, compds.
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)

IT 79183-73-6 82312-83-2 94928-86-6, Tris(2-phenylpyridine), iridium 123847-85-8, NPD 134984-37-5 139092-78-7 303049-17-4 **358974-66-0** 359014-72-5 376367-93-0 **377092-10-9** 387859-70-3 435294-03-4 439801-48-6 690977-83-4 693794-98-8
(org. **electroluminescent** device with **light-emitting** layer contg. metal complex as host material)

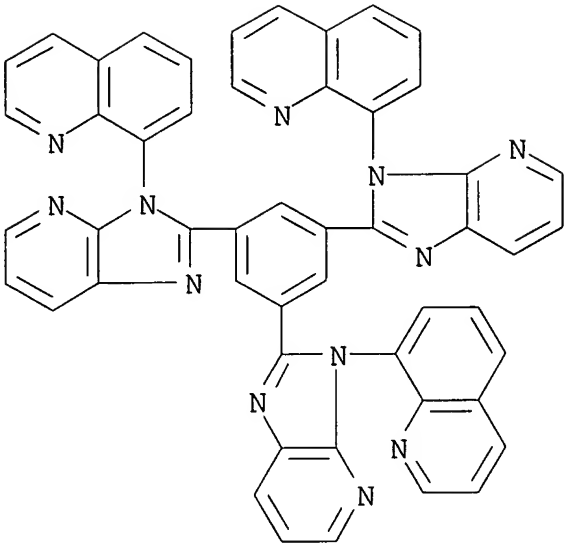
L35 ANSWER 3 OF 57 HCA COPYRIGHT 2005 ACS on STN
141:96373 Organic **electroluminescent** device. Ise, Toshihiro; Igarashi, Tatsuya; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). PCT Int. Appl. WO 2004055130 A1 20040701, 66 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-JP16195 20031217. PRIORITY: JP 2002-365280 20021217.

AB An org. **electroluminescent** device comprising: a pair of electrode; and at least one org. layer between the pair of electrode, the at least one org. layer including a luminescent layer, wherein the luminescent layer contains at least one phosphorescent material and at least one compd. with the formula defined herein.

IT **377092-10-9**
(org. **electroluminescent** device and org. phosphorescent substances for it)

RN 377092-10-9 HCA

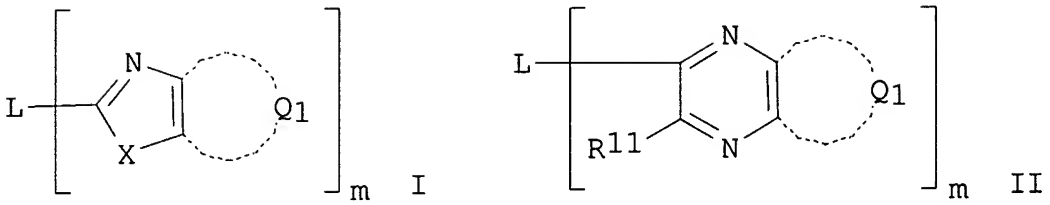
CN Quinoline, 8,8',8''-[1,3,5-benzenetriyltris(3H-imidazo[4,5-b]pyridine-2,3-diyl)]tris- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device LED **org** phosphorescent **luminescent** material
IT Vapor deposition process
(chem., fabrication using; org. **electroluminescent** device and org. phosphorescent substances for it)
IT **Electroluminescent** devices
Luminescent substances
Phosphorescent substances
(**org. electroluminescent** device and org. phosphorescent substances for it)
IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses 50926-11-9, Indium tin oxide 65181-78-4, TPD
(org. **electroluminescent** device and org. phosphorescent substances for it)
IT 25135-52-8 58328-31-7 94928-86-6 155090-83-8, Baytron P 208187-79-5 **377092-10-9**
(org. **electroluminescent** device and org. phosphorescent substances for it)

L35 ANSWER 4 OF 57 HCA COPYRIGHT 2005 ACS on STN
141:96369 Organic **electroluminescent** element. Nishita, Nobuhiro (Japan). U.S. Pat. Appl. Publ. US 2004126619 A1 20040701, 31 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-732451 20031211. PRIORITY: JP 2002-361110 20021212.

GI

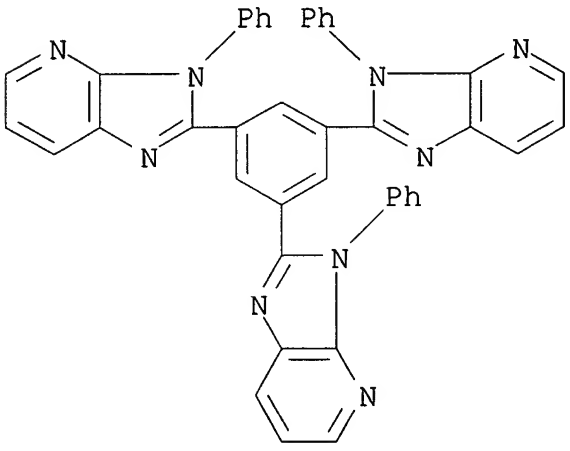


AB An org. **electroluminescent** device is described comprising a substrate; a cathode; at least one org. layer, at least one of the at least one org. layer being a **light-emitting** layer; and an anode, wherein the element further comprises a mixt. layer contg. an inorg. metal salt and an **electron transporting** org. material so that the cathode, the mixt. layer and the org. layer are in this order, and the **electron transporting** org. material is at least one of compds. represented by the formula I and II, wherein X = O, S, Se, Te or N-R, R = a hydrogen atom, an aliph. hydrocarbyl group, an aryl group or a heterocyclic group, Q = atoms necessary for forming an arom. heterocyclic ring, m = 2,3,4,.., and L = a linking group; R11 = a hydrogen atom or a substituent.

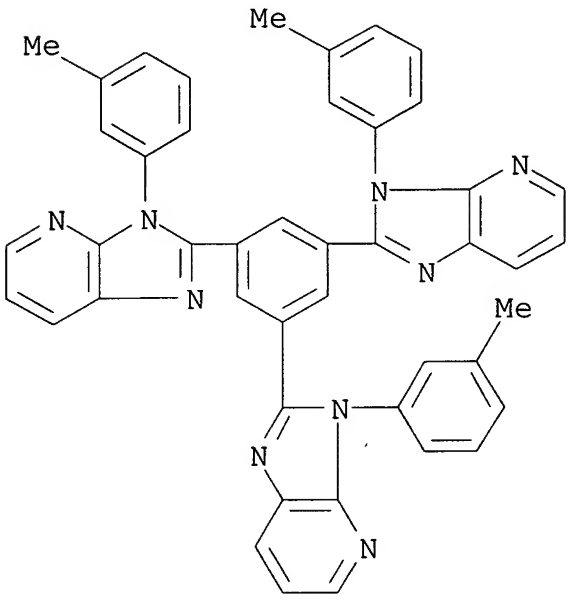
IT **313950-73-1 328238-10-4 358974-66-0 377092-10-9 714215-62-0**
(**electron transporting** material; org. **electroluminescent** element using novel **electron transporting** material)

RN 313950-73-1 HCA

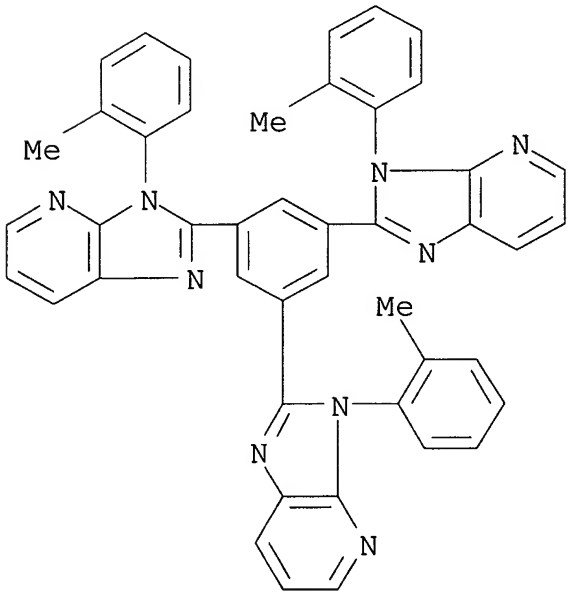
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



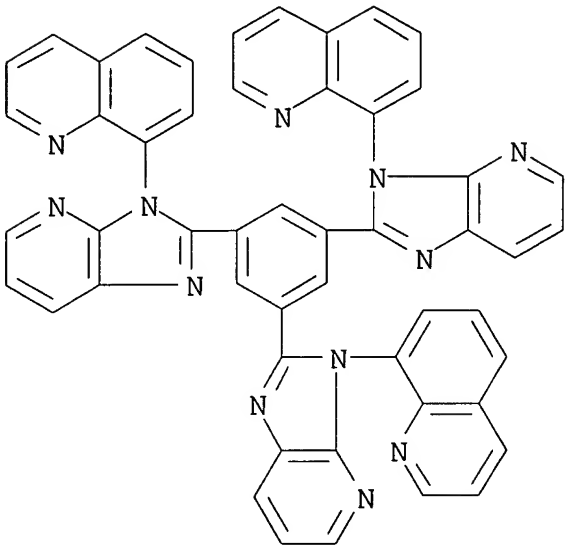
RN 328238-10-4 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(3-methylphenyl)- (9CI) (CA INDEX NAME)



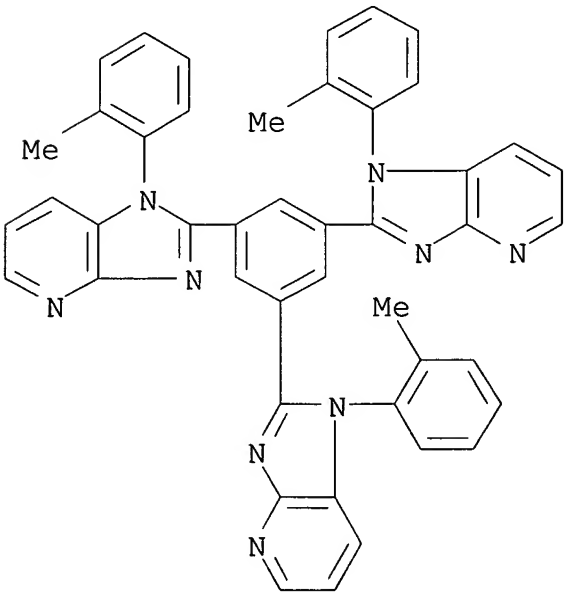
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



RN 377092-10-9 HCA
CN Quinoline, 8,8',8''-[1,3,5-benzenetriyltris(3H-imidazo[4,5-b]pyridine-2,3-diyl)]tris- (9CI) (CA INDEX NAME)



RN 714215-62-0 HCA
CN 1H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[1-(2-methylphenyl)- (9CI) (CA INDEX NAME)

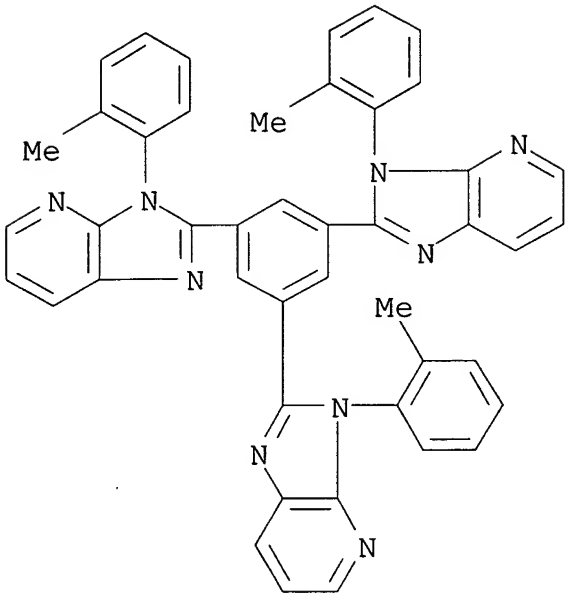


IC ICM H05B033-12

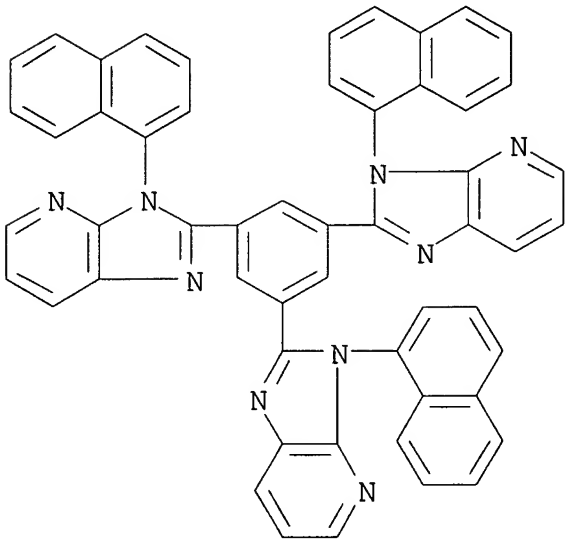
INCL 428690000; 428917000; 313504000; 313506000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 76
ST org **electroluminescent** device **electron transporting** material
IT **Electroluminescent** devices
(org. **electroluminescent** element using novel **electron transporting** material)
IT Polyimides, uses
(org. **electroluminescent** element using novel **electron transporting** material)
IT **313950-73-1 328238-10-4 358974-66-0**
377092-02-9 **377092-10-9** 377092-13-2 **714215-62-0**
(**electron transporting** material; org. **electroluminescent** element using novel **electron transporting** material)
IT 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride (LiF), uses 25067-59-8, Polyvinylcarbazole 50926-11-9, Indium tin oxide 94928-86-6, Tris(2-phenylpyridine)iridium 123847-85-8
(org. **electroluminescent** element using novel **electron transporting** material)

L35 ANSWER 5 OF 57 HCA COPYRIGHT 2005 ACS on STN
141:79148 Organic **electroluminescent** element. Ise, Toshihiro; Igarashi, Tatsuya; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2004124769 A1 20040701, 45 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-735700 20031216. PRIORITY: JP 2002-365281 20021217.
AB The invention relates to an org. **electroluminescent** element comprising: a pair of electrodes; and an org. layer provided between the pair of electrodes, the org. layer comprising a **light-emitting** layer and an **electron transporting** layer, wherein the **light-emitting** layer contains at least 1 phosphorescence-emitting material and at least 1 metal complex functioning as a host material, and the **electron transporting** layer contains the compd. represented by <in-line-formula>L-+Parenopenst; (A)m </in-line-formula> wherein A represents a monovalent heterocyclic group wherein .gtoreq.2 arom. hetero rings are condensed, the heterocyclic groups represented by A is the same or different from each other, m represents an integer of .gtoreq.2, and L represents an m-valent linking group.
IT **358974-66-0 428455-07-6**
(**electron transporting** material; phosphorescent org. **electroluminescent** device)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-

methylphenyl)- (9CI) (CA INDEX NAME)



RN 428455-07-6 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(1-naphthalenyl)- (9CI) (CA INDEX NAME)



IC ICM H01J001-63
INCL 313504000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device phosphorescence host guest

IT **Electroluminescent** devices
Phosphorescent substances
(phosphorescent org. **electroluminescent** device)

IT **358974-66-0 428455-07-6**
(**electron transporting** material;
phosphorescent org. **electroluminescent** device)

IT 208187-75-1
(host material in **light emitting** layer;
phosphorescent org. **electroluminescent** device)

IT 94928-86-6, Tris(2-phenylpyridine)iridium
(phosphorescent guest material; phosphorescent org.
electroluminescent device)

L35 ANSWER 6 OF 57 HCA COPYRIGHT 2005 ACS on STN
140:329330 organic **electroluminescent** devices containing transition metal complex. Igarashi, Tatsuya; Watanabe, Kohsuke (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2004065544 A1 20040408, 17 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-670005 20030925. PRIORITY: JP 2002-287390 20020930.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

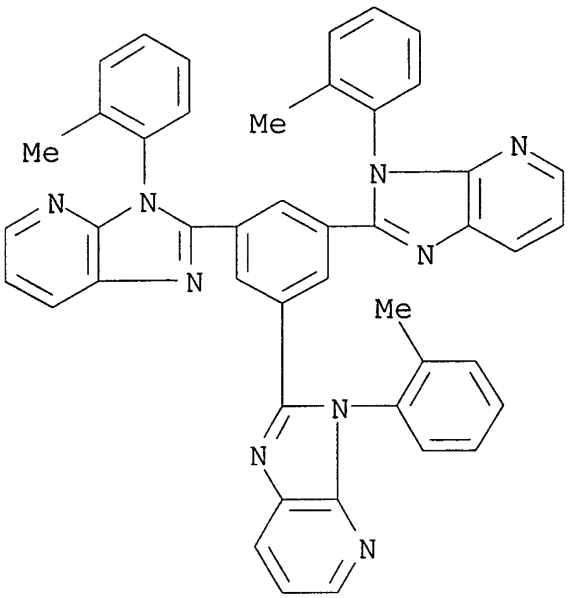
AB Org. **electroluminescent** devices are described described which comprise: a pair of electrodes; and at least one org. layer provided between the pair of electrodes, at least one of the at least one org. layer being a **light emitting** layer, where the **light-emitting** layer comprises a compd. represented by the formula (I), where R11 and R12 each represent a hydrogen atom or a substituent; Y11, Y12, and Y13 each represent a substituted or unsubstituted carbon atom, a substituted or unsubstituted nitrogen atom, an oxygen atom or a sulfur atom; M11 represents a transition metal ion; L11 represents a ligand; X11 represents a counter ion; n11 represents an integer of 1 to 3; n12 represents an integer of 0 to 4; and n13 represents an integer of 0 to 4; with proviso that a compd. in which R11 and R12 are connected together to form a porphyrin ring is excluded. A compd. represented by the formula (II) are discussed, where Y67 and Y68 each represents an oxygen atom, a sulfur atom, a quaternary carbon atom or a substituted or unsubstituted nitrogen atom; R61, R62, R63, R64, and R65 each represents a substituent; and n62, n63, n64, and n65 each represents an integer of 0 to 4.

IT **358974-66-0**

(org. **electroluminescent** devices contg. transition metal complex)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

INCL 204296000; 252301160

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78

ST transition metal complex org **electroluminescent** device OELD

IT Transition metal complexes
(org. **electroluminescent** devices contg. transition metal complex)

IT **Electroluminescent** devices
(org.; org. **electroluminescent** devices contg. transition metal complex)

IT 7429-90-5, Aluminum, uses 7440-22-4, Silver, uses 7789-24-4, Lithium fluoride, uses 50926-11-9, ITO 58328-31-7 65181-78-4, TPD 70673-65-3 **358974-66-0**
(org. **electroluminescent** devices contg. transition metal complex)

IT 15082-28-7 25067-59-8, Polyvinylcarbazole
(org. **electroluminescent** devices contg. transition metal complex)

IT 677751-50-7P

(org. **electroluminescent** devices contg. transition metal complex)

IT 7210-08-4 337526-84-8
(org. **electroluminescent** devices contg. transition metal complex)

L35 ANSWER 7 OF 57 HCA COPYRIGHT 2005 ACS on STN

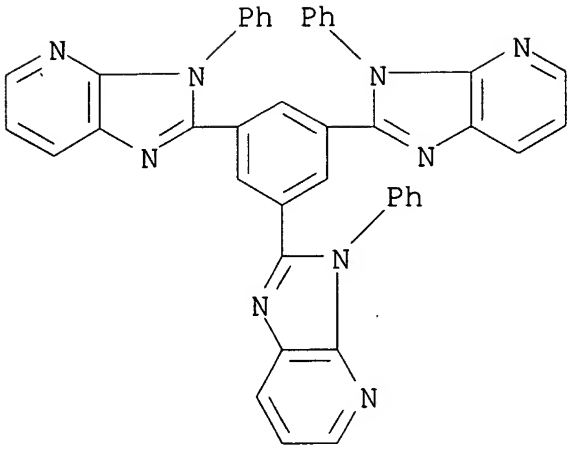
140:312124 Organic **electroluminescent** element containing metal chelate complex having nitrogen-containing ring compound. Arakane, Takashi; Iwakuma, Toshihiro; Hosokawa, Chishio (Idemitsu Kosan Co., Ltd., Japan). PCT Int. Appl. WO 2004028217 A1 20040401, 78 pp. DESIGNATED STATES: W: CN, JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2003-JP11898 20030918. PRIORITY: JP 2002-275083 20020920.

AB An org. **electroluminescent** element comprising a neg. electrode and a pos. electrode and, interposed between them, one or more org. thin film layers including a luminescent layer contg. at least a phosphorescent **luminous** compd., which **org . electroluminescent** element further comprises an electron injection layer bonded to the neg. electrode, the electron injection layer comprising as a main component at least one member selected from among metal chelate complexes of nitrogenous ring, nitrogenous 5-membered ring derivs., noncondensed nitrogenous 6-membered ring derivs. and condensed nitrogenous 6-membered ring derivs. having one carbon ring condensed and comprising as a reducing dopant at least one member selected from among alkali metals, alkali metal complexes, alkali metal compds., alk. earth metals, alk. earth metal complexes, alk. earth metal compds., rare earth metals, rare earth metal complexes and rare earth metal compds. This org. **electroluminescent** element realizes phosphorescent luminescence and exhibits high luminous efficiency and prolonged durability.

IT **313950-73-1**
(org. **electroluminescent** element contg. metal chelate complex having nitrogen-contg. ring compd.)

RN 313950-73-1 HCA

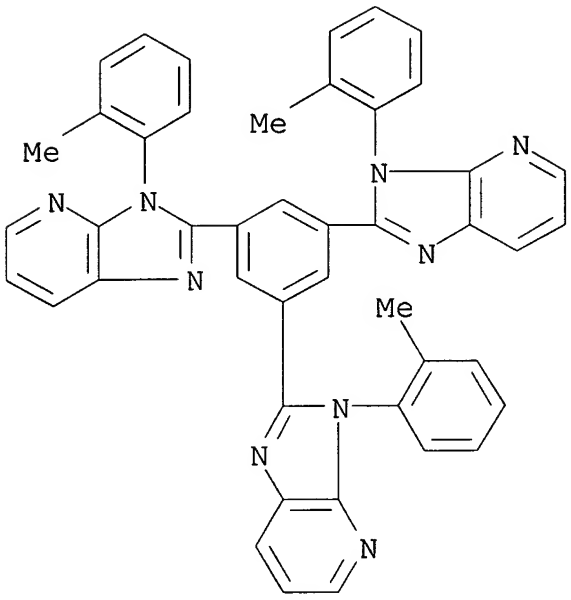
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-22
ICS H05B033-14
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 29, 73
ST org **electroluminescent** element metal chelate complex nitrogen ring; optical imaging display device
IT **Electroluminescent** devices
Optical imaging devices
(org. **electroluminescent** element contg. metal chelate complex having nitrogen-contg. ring compd.)
IT 146162-54-1 192198-85-9 **313950-73-1** 387859-70-3
504409-45-4 676345-55-4 676345-56-5
(org. **electroluminescent** element contg. metal chelate complex having nitrogen-contg. ring compd.)

L35 ANSWER 8 OF 57 HCA COPYRIGHT 2005 ACS on STN
140:101806 Carbazole compounds, their polymers, and **light-emitting** elements using them with excellent blue **light emission**. Watanabe, Saisuke; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004018787 A2 20040122, 27 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-179094 20020619.
AB The compds. are 3-R1-6-R2-9-R3-substituted carbazole [R1,2 = (un)substituted 9-carbazolyl; R3 = H2C:CRX; R = H, substituent; X = single bond, divalent org. group].
IT **358974-66-0**
(**light-emitting** layer; carbazole compds. for host polymers for org. **electroluminescent** devices with good blue **light emission**)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-

methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM C08F026-12
ICS C07D209-80; C07D209-88; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 35, 38

ST carbazole compd blue **light emission** efficiency; org **electroluminescent** device host polymer carbazolylcarbazole

IT **Electroluminescent** devices
(blue-emitting; carbazole compds. for host polymers for org. **electroluminescent** devices with good blue **light emission**)

IT 37500-95-1P 606129-90-2P, 9,3':6',9''-Ter-9H-carbazole 644979-46-4P 644979-50-0P
(for monomer prepn.; carbazole compds. for host polymers for org. **electroluminescent** devices with good blue **light emission**)

IT 86-74-8, Carbazole 98-53-3, 4-tert-Butylcyclohexanone 107-06-2, 1,2-Dichloroethane, reactions 2039-82-9, 4-Bromostyrene 6825-20-3, 3,6-Dibromocarbazole 61765-93-3, 4-tert-Butylphenylhydrazine
(for monomer prepn.; carbazole compds. for host polymers for org. **electroluminescent** devices with good blue **light emission**)

IT 155090-83-8, Baytron P
(hole-transporting layer; carbazole compds. for host polymers for

org. **electroluminescent** devices with good blue **light emission**)

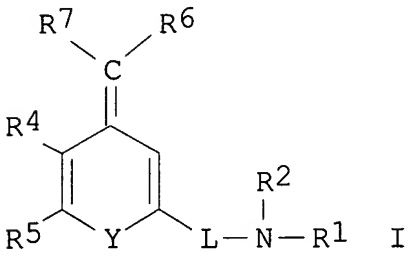
IT 351863-09-7 **358974-66-0** 370878-69-6 387859-70-3
(**light-emitting** layer; carbazole compds. for host polymers for org. **electroluminescent** devices with good blue **light emission**)

IT 644979-58-8P 644979-60-2P 644979-62-4P
(**light-emitting** layer; carbazole compds. for host polymers for org. **electroluminescent** devices with good blue **light emission**)

IT 644979-48-6P 644979-55-5P 644979-56-6P
(monomer; carbazole compds. for host polymers for org. **electroluminescent** devices with good blue **light emission**)

L35 ANSWER 9 OF 57 HCA COPYRIGHT 2005 ACS on STN
140:67425 Organic **electroluminescent** device with improved brightness. Arai, Kazumi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004006074 A2 20040108, 36 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-159050 20020531.

GI



I

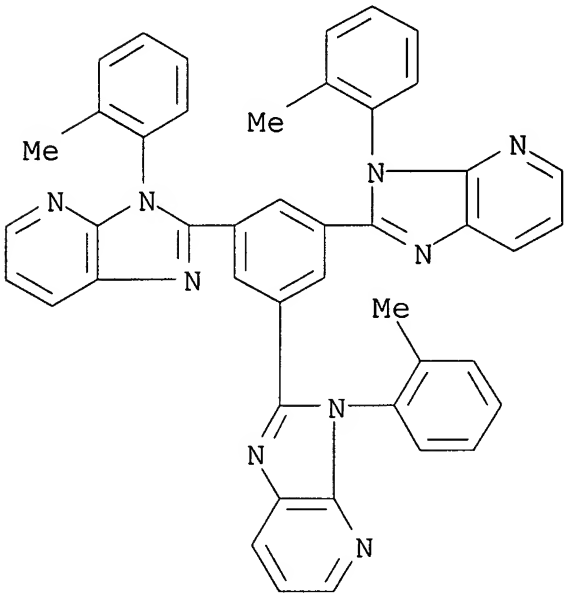
AB The org. **EL** device has, between a pair of electrodes, a luminescent layer or a plurality of org. layers involving a luminescent layer contg. 1st luminescent material represented by a general formula I (R1, R2 = aliph. hydrocarbyl, aryl, heterocyclic group; R3-R5 = H, substituent; L = conjugated bond linkage; R1, R2, and L may be bonded to each other and form ring; Y = oxygen, sulfur, NRY; NRY = H, substituent; Rx, Ry = H, substituent; at least one of R6 and R7 show electron-withdrawing group) and a 2nd luminescent material which **emits light** of wavelength shorter than that of I, preferably one represented by a general formula which is substantially the same as that of I, except for that R2 is H. The org. **EL** device has improved purity of red color and excellent durability.

IT **358974-66-0**

(**electron-transporting** material; org. **electroluminescent** device with improved brightness, contg. mixt. of red-emitting phosphors)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **EL** device red emitting phosphor

IT **Electroluminescent** devices
(org. **electroluminescent** device with improved brightness, contg. mixt. of red-emitting phosphors)

IT Phosphors
(red-emitting; org. **electroluminescent** device with improved brightness, contg. mixt. of red-emitting phosphors)

IT **358974-66-0**
(**electron-transporting** material; org. **electroluminescent** device with improved brightness, contg. mixt. of red-emitting phosphors)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 65181-78-4, N,N'-Bis(3-methylphenyl)-N,N'-diphenylbenzidine 638222-61-4
(org. **electroluminescent** device with improved brightness, contg. mixt. of red-emitting phosphors)

L35 ANSWER 10 OF 57 HCA COPYRIGHT 2005 ACS on STN

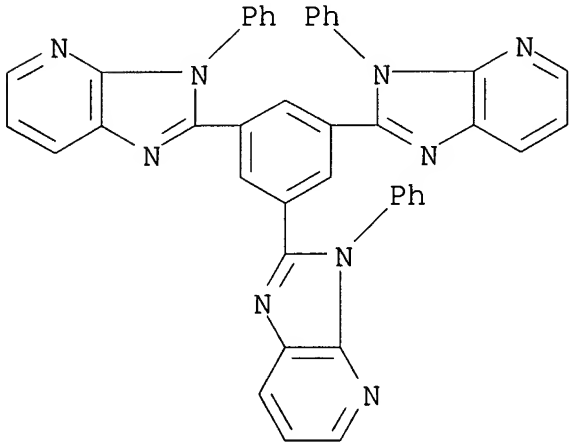
140:10438 Organic **electroluminescent** devices with good durability and luminescence properties. Igarashi, Tatsuya (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003347056 A2 20031205, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-157507 20020530.

AB The org. **electroluminescent** (**EL**) device, useful for displays, lamps, scanners, etc., has between a pair of electrodes a **luminescence** layer or **org.** layers contg. it, wherein the luminescence layer contains .gtoreq.1 compds. Ar12Ar11Ar(Ar21Ar22)Ar31Ar32 (Ar11, Ar21, Ar31 = arylene; Ar12, Ar22, Ar32 = H, substituent; .gtoreq.1 of Ar11, Ar21, Ar31, Ar12, Ar22, Ar32 = group having condensed aryl structures other than pyrene or condensed heteroaryl structures; Ar = trivalent arom., arom. heteroring) and the org. layers contain styryl derivs. having .gtoreq.1 N.

IT **313950-73-1**
(org. **EL** devices with good durability and luminescence properties)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device phenanthrylbenzene durability; styrylamine condensed arom triarylbenzene **EL** device

IT **Electroluminescent** devices
(org. **EL** devices with good durability and luminescence properties)

IT 144810-07-1 151965-47-8, Phenanthrene, 9,9',9''-(1,3,5-

benzenetriyl)tris- **313950-73-1**
(org. **EL** devices with good durability and luminescence properties)

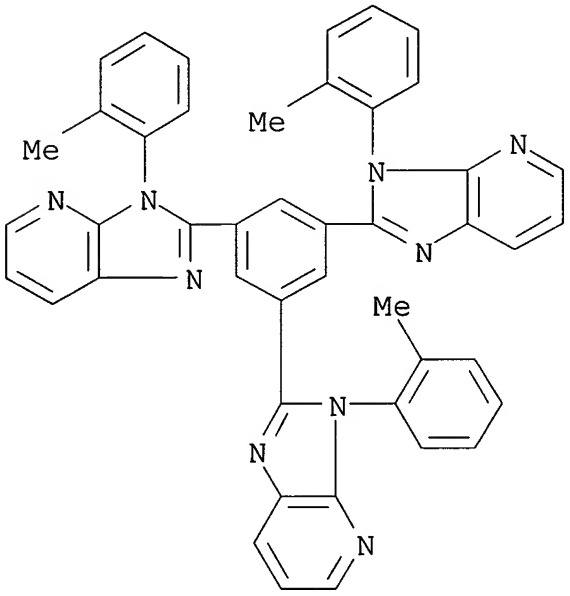
L35 ANSWER 11 OF 57 HCA COPYRIGHT 2005 ACS on STN
139:330082 Organic thin film **electroluminescent** device and production method. Nishida, Nobuhiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003297563 A2 20031017, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-96412 20020329.

AB The invention refers to a prodn. method of an org. thin film **electroluminescent** device, suitable for use in full color displays, back lighting, planar light sources and light source arrays for printers, comprising a cathode, a **luminescent org.** layer and an anode, wherein an org. film formed on a temporary substrate via wet method, and transferred to the substrate by placing it over the cathode layer and heating, then removing the temporary substrate, in order to easily place the org. layer on the substrate and provide a uniform adhesive interface.

IT **358974-66-0**
(org. thin film **electroluminescent** device and prodn. method)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)

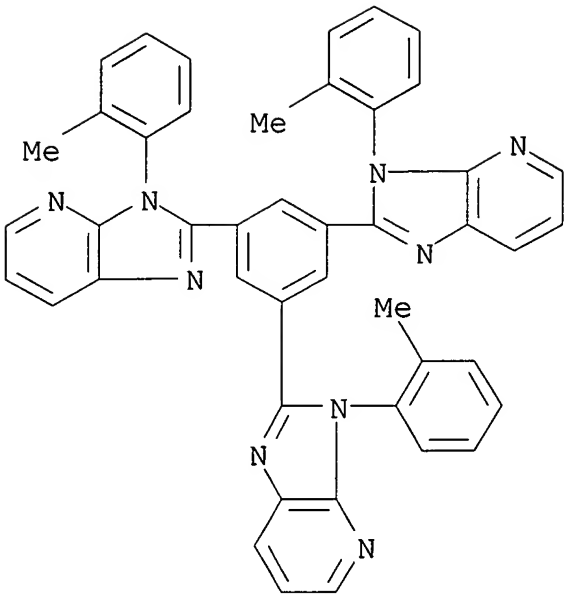


IC ICM H05B033-10
ICS B41J002-44; B41J002-45; B41J002-455; H05B033-14; H05B033-26

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)
ST thin film **electroluminescent** device transfer
IT Polyvinyl butyrals
(org. thin film **electroluminescent** device and prodn. method)
IT **Electroluminescent** devices
(thin-film; org. thin film **electroluminescent** device and prodn. method)
IT 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses 24964-91-8 25067-59-8, Poly vinyl carbazole 50926-11-9, ITO 94928-86-6 173394-18-8 **358974-66-0**
(org. thin film **electroluminescent** device and prodn. method)

L35 ANSWER 12 OF 57 HCA COPYRIGHT 2005 ACS on STN
139:299005 **Light-emitting** device. Mishima, Masayuki (Japan). U.S. Pat. Appl. Publ. US 2003184221 A1 20031002, 9 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-400584 20030328. PRIORITY: JP 2002-92323 20020328.
AB An org. **electroluminescent** device comprising: a substrate; a cathode; at least one org. compd. layer including a **light -emitting** layer; and a transparent anode, in this order, wherein a reducing-compd. layer is located between the substrate and the cathode.
IT **358974-66-0**
(**light-emitting** diode and its fabrication and properties)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-00
INCL 313512000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST **light emitting** device LED
IT Polyesters, uses
(Tetoron O; **light-emitting** diode and its fabrication and properties)
IT Alloys, uses
(alkali metal; **light-emitting** diode and its fabrication and properties)
IT Alkali metals, uses
(alloys; **light-emitting** diode and its fabrication and properties)
IT **Electroluminescent** devices
(**light-emitting** diode and its fabrication and properties)
IT Alkali metals, uses
Rare earth alloys
Rare earth metals, uses
(**light-emitting** diode and its fabrication and properties)
IT Calcium alloy, base
Cerium alloy, base
Cesium alloy, base
Erbium alloy, base
Gadolinium alloy, base

Hafnium alloy, base
Lanthanum alloy, base
Lithium alloy, base
Magnesium alloy, base
Neodymium alloy, base
Potassium alloy, base
Rubidium alloy, base
Samarium alloy, base
Scandium alloy, base
Ytterbium alloy, base
Yttrium alloy, base
Zinc alloy, base
(**light-emitting** diode and its fabrication and properties)

IT 25038-59-9, Tetoron O, uses
(Tetoron O; **light-emitting** diode and its fabrication and properties)

IT 1345-25-1, Iron oxide feo, uses 7429-90-5, Aluminum, uses 7439-91-0, Lanthanum, uses 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7440-00-8, Neodymium, uses 7440-09-7, Potassium, uses 7440-17-7, Rubidium, uses 7440-19-9, Samarium, uses 7440-20-2, Scandium, uses 7440-45-1, Cerium, uses 7440-46-2, Cesium, uses 7440-52-0, Erbium, uses 7440-53-1, Europium, uses 7440-54-2, Gadolinium, uses 7440-58-6, Hafnium, uses 7440-64-4, Ytterbium, uses 7440-65-5, Yttrium, uses 7440-66-6, Zinc, uses 7440-70-2, Calcium, uses 7789-24-4, Lithium fluoride, uses 20619-16-3, Germanium oxide geo 21651-19-4, Tin oxide sno 50926-11-9, Indium tin oxide 58328-31-7 94928-86-6, Tris(2-phenylpyridine)iridium 113443-18-8, Silicon monoxide 123847-85-8 **358974-66-0**
(**light-emitting** diode and its fabrication and properties)

L35 ANSWER 13 OF 57 HCA COPYRIGHT 2005 ACS on STN
139:283129 Organic thin-film device and its production method.
Tateishi, Tomomi (Fuji Photo Film Co., Ltd., Japan). PCT Int. Appl. WO 2003079734 A1 20030925, 53 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-JP3331 20030319. PRIORITY: JP 2002-79123 20020320.

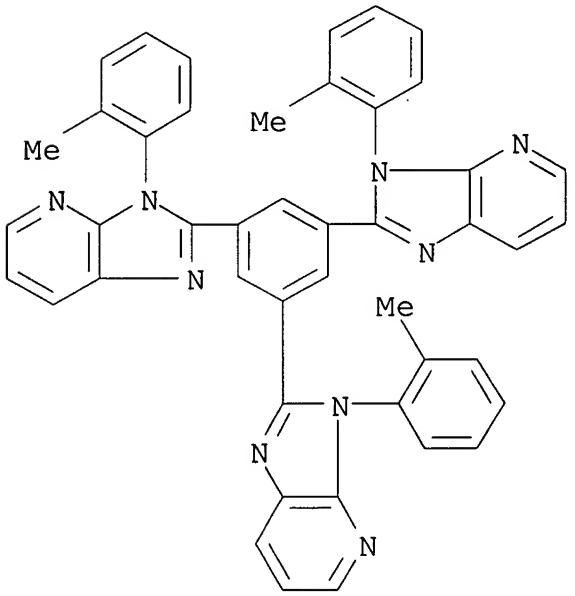
AB A method of fabricating an org. thin-film (e.g., org. LED) device is described entailing (a) heating and/or pressing a transfer material

having an org. thin-film layer formed on a temporary support and a 1st laminate comprising a substrate and at least a transparent conductive layer or a rear-surface electrode formed on the substrate, which are overlapped each other such that the org. thin-film layer of the transfer material faces a receiving surface of the 1st laminate, thereby forming a laminate structure; (b) peeling the temporary support from the laminate structure to transfer the org. thin-film layer to the receiving surface of the 1st laminate; and (c) bonding a 2nd laminate comprising a substrate and at least a rear-surface electrode or a transparent conductive layer formed on the substrate to the org. thin-film layer transferred onto the 1st laminate.

IT **358974-66-0**
(**electron-transporting** material; org. thin-film device fabricated by using transfer layer having org. film layer)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-10
ICS H01L051-20

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

IT Polyvinyl butyrals
(**electron-transporting** material; org. thin-film device fabricated by using transfer layer having org.

film layer)

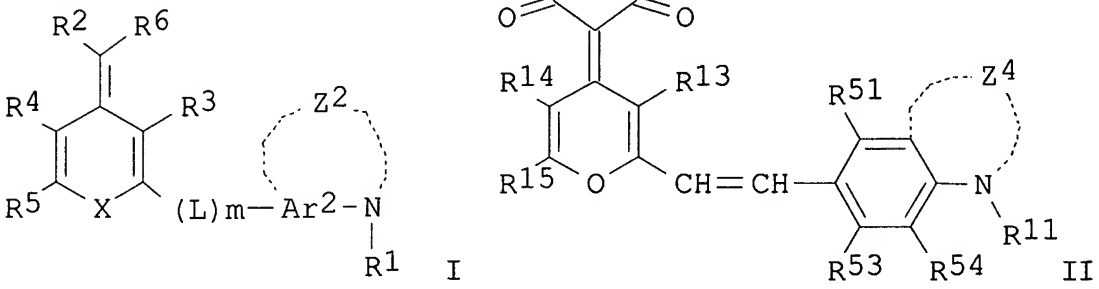
IT **Electroluminescent** devices
Films
Semiconductor device fabrication
(org. thin-film device fabricated by using transfer layer having org. film layer)

IT **358974-66-0**
(**electron-transporting** material; org. thin-film device fabricated by using transfer layer having org. film layer)

IT 25067-59-8, Polyvinyl carbazole 94928-86-6, Tris(2-phenylpyridine)iridium
(**light-emitting** layer; org. thin-film device fabricated by using transfer layer having org. film layer)

L35 ANSWER 14 OF 57 HCA COPYRIGHT 2005 ACS on STN
139:221339 Organic **electroluminescent** devices. Arai, Kazumi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003243177 A2 20030829, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-38495 20020215.

GI



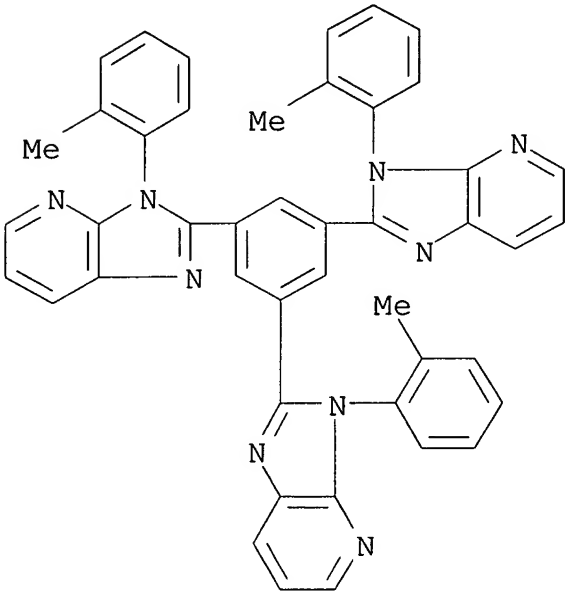
AB He devices comprise a pair of electrodes interposing an org. **electroluminescent** laminate contg. a phosphor layer comprising I or II (R1 =aliph. hydrocarbon; R3-5 = H, substituent; X = O. S, N-R6; R2 = H, substituent; R2, R6 = H, substituent; L = linking group having conjugated bond: m = 0, 3; Ar2 = aryl, heteroaryl; Z2 = ring with Ar2-N, alkynylene; Z2 does not form aryl

group; R11 = C1-20 alkyl; R13,14 = H, C1-6 alkyl; R15 = C1-20 alkyl, C6-20 aryl, C1-20 heteroaryl; R51,53,54 = H, C1-6 alkyl, C1-6 alkoxy; R61-64 = H, C1-20 alkyl, C6-20 aryl, C2-20 heterocyclic, halo; R61,62, R62,63, R63,64 may form 5-6 member ring; Z4 = contg. alkenylene, may form 5-6 member ring with ortho-C in aniline N; Z4 does not form aryl group).

IT **358974-66-0**
(structure and properties of org. **electroluminescent** devices)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C07D405-06; C09K011-06

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device phosphor

IT **Electroluminescent** devices
Fluorescence
Phosphors
Thermal stability
(structure and properties of org. **electroluminescent** devices)

IT Polycarbonates, uses
(structure and properties of org. **electroluminescent** devices)

IT 2085-33-8, Tris(8-quinolinolato)aluminum 123847-85-8,

[1,1'-Biphenyl]-4,4'-diamine, N,N'-di-1-naphthalenyl-N,N'-diphenyl- 349666-25-7 **358974-66-0** 586959-04-8 586959-05-9
(structure and properties of org. **electroluminescent** devices)

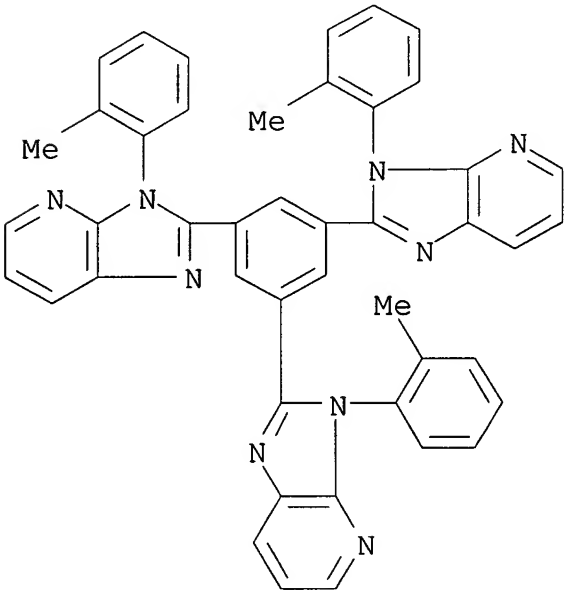
L35 ANSWER 15 OF 57 HCA COPYRIGHT 2005 ACS on STN
139:157123 **Electroluminescent** device containing heterocyclic compound with condensed aromatic rings. Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003217856 A2 20030731, 38 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-10167 20020118.

AB The invention refers to an **electroluminescent** device comprising at least one compd. L(A)m [A = two or more arom. rings condensed on a heterocyclic ring; m < 2; L = bridging group].

IT **358974-66-0 377092-10-9 428455-07-6 569682-34-4**
(**electroluminescent** device contg. heterocyclic compd. with condensed arom. rings)

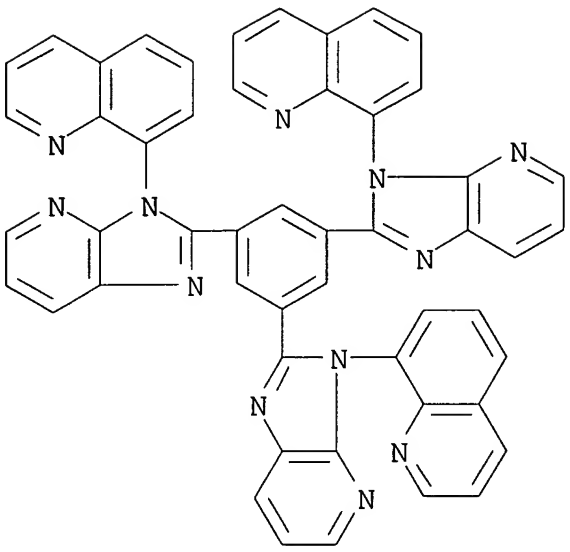
RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)

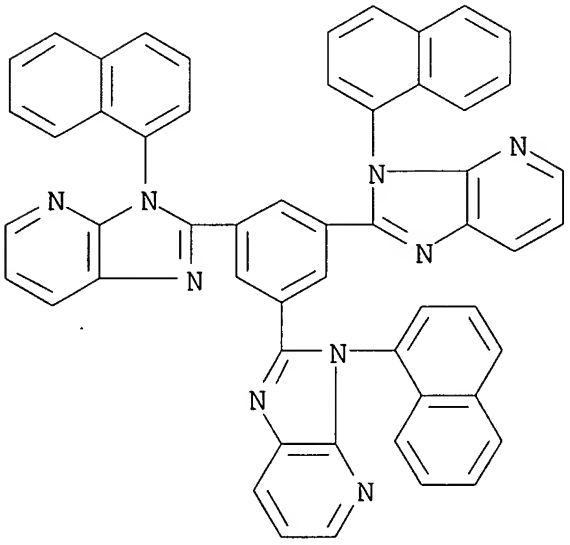


RN 377092-10-9 HCA

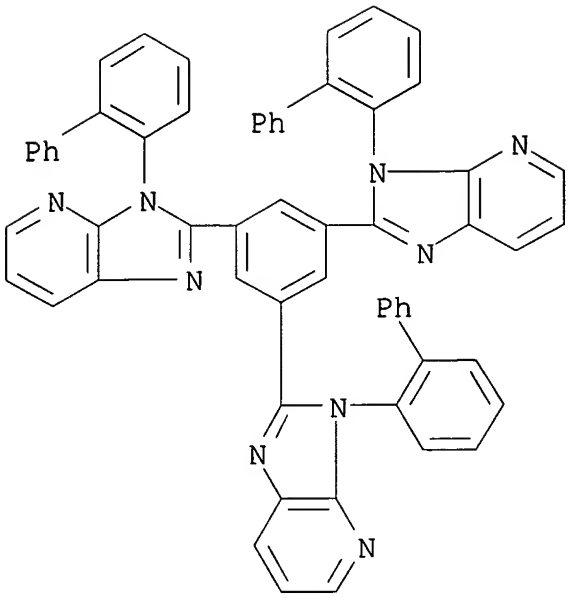
CN Quinoline, 8,8',8''-[1,3,5-benzenetriyltris(3H-imidazo[4,5-b]pyridine-2,3-diyl)]tris- (9CI) (CA INDEX NAME)



RN 428455-07-6 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(1-naphthalenyl)- (9CI) (CA INDEX NAME)

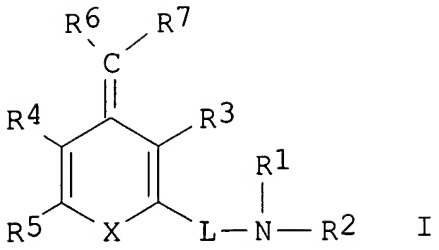


RN 569682-34-4 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-[1,1'-biphenyl]-2-yl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST **electroluminescent** device heterocyclic condensed arom **electron transport**
IT **Electroluminescent** devices
Electron transport
(**electroluminescent** device contg. heterocyclic compd. with condensed arom. rings)
IT **358974-66-0 377092-10-9** 377092-14-3
428455-07-6 569682-33-3 **569682-34-4**
(**electroluminescent** device contg. heterocyclic compd. with condensed arom. rings)

L35 ANSWER 16 OF 57 HCA COPYRIGHT 2005 ACS on STN
139:108398 Organic **electroluminescent** devices. Arai, Kazumi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003197376 A2 20030711, 41 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-399915 20011228.
GI



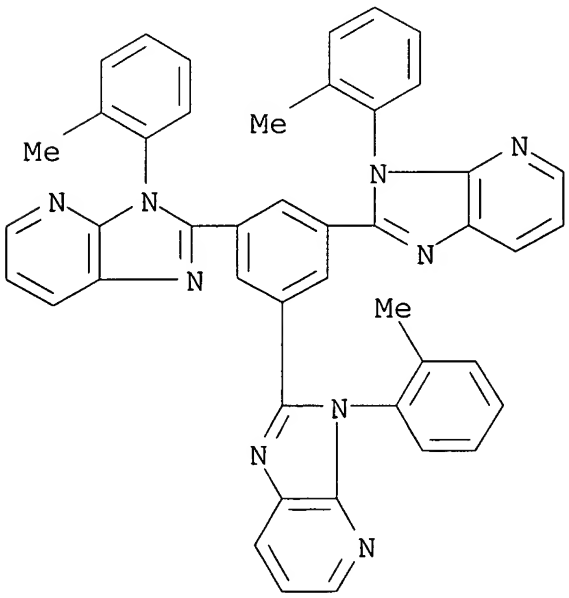
I

AB The devices comprise a phosphor layer comprising .gtoreq.1 selected from Ar2-Ar1-Ar3 (Ar1 = allylene, hetero-allylene; Ar2,3 = aryl, heteroaryl) and I (R1-5 = H, substituent; X = O, S, N - RY1; RY1 = H, substituent; L = conjugated bond; R6, R7 = H, substituent contg. electron donor).

IT **358974-66-0**
(structure and properties of org. **electroluminescent** devices)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



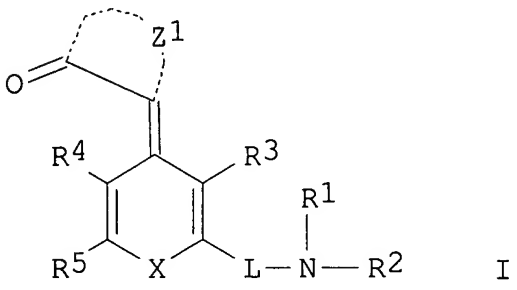
IC ICM H05B033-14
ICS C09K011-06; H05B033-22

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device

IT **Electroluminescent** devices
Electron donors
Luminescent substances
Phosphors
Substituent effects
(structure and properties of org. **electroluminescent** devices)
IT Polycarbonates, uses
(structure and properties of org. **electroluminescent** devices)
IT 2085-33-8, Tris(8-quinolinolato)aluminum 15082-28-7, PBD 51325-91-8, DCM
(structure and properties of org. **electroluminescent** devices)
IT 7704-34-9, Sulfur, properties 12385-13-6, Hydrogen atom, properties 17778-80-2, Oxygen atom, properties 65181-78-4, TPD 183748-02-9, Electron 251360-53-9 255709-81-0
358974-66-0
(structure and properties of org. **electroluminescent** devices)

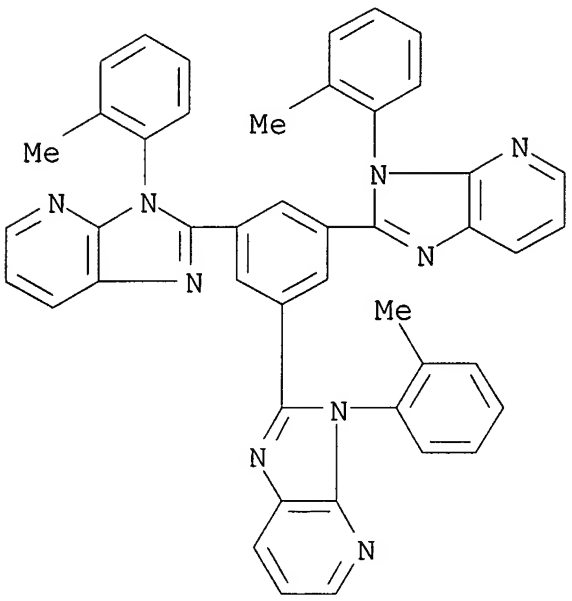
L35 ANSWER 17 OF 57 HCA COPYRIGHT 2005 ACS on STN
139:92461 Organic **electroluminescent** devices. Arai, Kazumi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003193044 A2 20030709, 20 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-400341 20011228.
GI



I

AB The devices comprise a phosphor layer contg. I (R1-5 = H, substituent; R1 and/or R2 = aliph. hydrocarbon contg. >6 C; R1 and R2 may form 5-7 member ring and with L form 5-6 member ring; X = O, S, N-RY1; RY1 = H, substituent; L = conjugate bond; Z1 = atoms for forming 5-6 member ring).
IT **358974-66-0**
(structure and properties of org. **electroluminescent** devices)

RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C07D309-34; C07D405-06; C09B023-00; H05B033-14; H05B033-22
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device
IT Electrodes
Electroluminescent devices
Phosphors
(structure and properties of org. **electroluminescent** devices)
IT 2085-33-8, Tris(8-quinolinolato)aluminum 50926-11-9, ITO 65181-78-4, TPD **358974-66-0** 556815-30-6 556815-32-8 556815-33-9 556815-34-0 556815-36-2 556815-38-4
(structure and properties of org. **electroluminescent** devices)

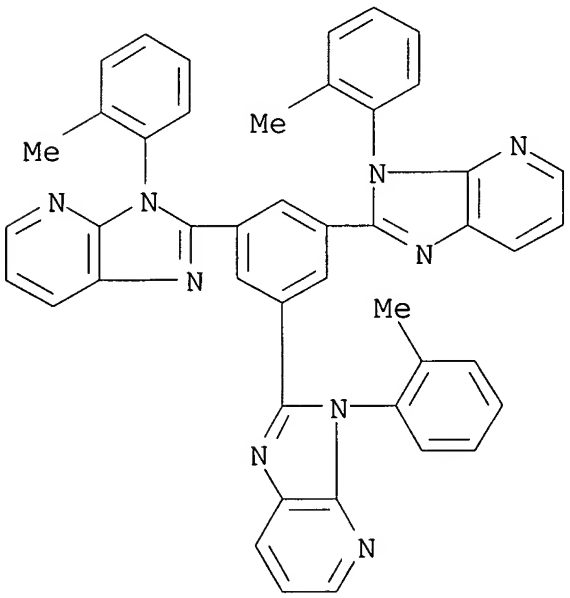
L35 ANSWER 18 OF 57 HCA COPYRIGHT 2005 ACS on STN
139:60536 Transfer material of organic thin-film device and manufacture of organic thin-film device by using the same. Tateishi, Tomomi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003178868 A2 20030627, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-334858 20011031. PRIORITY: JP 2001-305429 20011001.
AB The transfer material consists of a temporary support having thereon

.gtoreq.1 org. thin-film layers which are to be transfered to a substrate by laminating and heating and/or pressurizing, the surface roughness of the temporal support has the max. height Rmax (JIS B 0601-1982) .ltoreq.50 per 100 of the thickness of the org. thin-film layer, thereby offering good interfacial adhesion between the transfered org. thin-film layer and a device substrate. Preferably, the org. thin-film layer contains at least a luminescent compd. and./or a carrier-transporting compd. In the manuf. of the org. thin-film device, and from the substrate side, a hole-transporting org. thin-film layer, a **luminescent org.** thin-film layer, and an **electron-transporting** org. thin-film layer are transfered in this order. The substrate may consist of a substrate support having thereon a transparent elec. conductive film.

IT **358974-66-0**
(**electron-transporting** layer; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-10
ICS H05B033-14

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST org thin film device manuf transfer material; transfer film org **electroluminescent** device

IT **Electroluminescent** devices
(manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)
IT Polysulfones, uses
(polyether-, temporal support; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)
IT Polyethers, uses
(polysulfone-, temporal support; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)
IT Polycarbonates, uses
Polyesters, uses
(temporal support; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)
IT **358974-66-0**
(**electron-transporting** layer; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)
IT 155090-83-8, Baytron P 173394-18-8
(hole-transporting layer; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)
IT 94928-86-6, Tris(2-phenylpyridine)iridium
(luminescent layer; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)
IT 25038-59-9, Lumirror T 60, uses
(temporal support; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)
IT 50926-11-9, ITO
(transparent electrode; manuf. of org. **El** device by using transfer material composed of org. thin-film device supported on temporal support)

L35 ANSWER 19 OF 57 HCA COPYRIGHT 2005 ACS on STN
138:278144 Organic **electroluminescent** devices. Arai, Kazumi; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003109766 A2 20030411, 30 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-202718 20020711. PRIORITY: JP 2001-219910 20010719.
GI

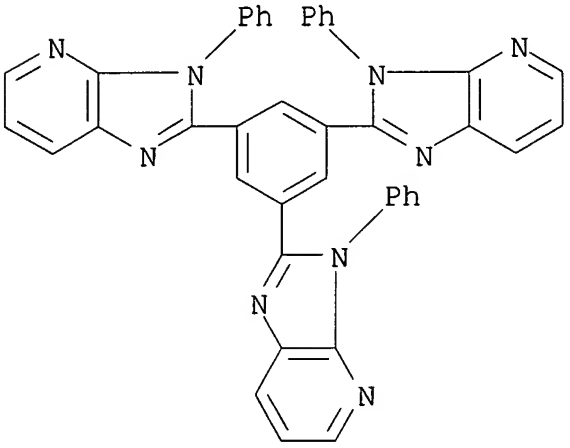
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The devices comprise a pair of excitation electrodes interposing an org. phosphor transmitting a singlet light and contg. I, II and III (R1-5, R31-34, R41-44, R45, R46 = H, substituent; X = O, S, N-RY1; RY1 = H, substituent; L = conjugate group, linkage group; Z1,2 = 5 or 6 member ring; L21, L22 = (substituted) methine, N; n = 0-3).

IT **313950-73-1**
(structure and property of org. **electroluminescent** devices)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST structure property org **electroluminescent** device

IT Electrodes
Excited state
Luminescent substances
Optical absorption
Substituent effects
(structure and property of org. **electroluminescent** devices)

IT 2085-33-8, Tris(8-quinolinolato)aluminum 50926-11-9, ITO 65181-78-4, TPD 200052-70-6, DCJTB 251360-53-9
313950-73-1 503474-38-2
(structure and property of org. **electroluminescent** devices)

IT 517-51-1, Rubrene
(structure and property of org. **electroluminescent**

devices)

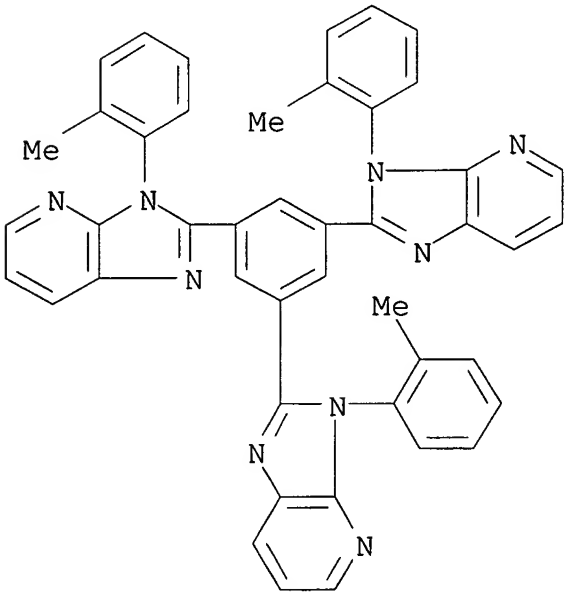
L35 ANSWER 20 OF 57 HCA COPYRIGHT 2005 ACS on STN
138:278133 Organic **electroluminescent** devices. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003100448 A2 20030404, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-291392 20010925.

AB The devices comprise: a glass substrate; a H2O barrier layer comprising a hydrophilic polymer binder contg. .gtoreq.1 H2O absorber; an ITO electrode; a hole transport, a phosphor, an **electron transport** and a metal electrode layer, where the H2O absorber layer comprises MgO, CaO, SrO and/or BaO.

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(structure and properties of org. **electroluminescent** devices)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-04
ICS H05B033-14

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device hydrophilic desiccant

IT Absorbents
Absorption
Absorption apparatus

Binders
Electrodes
Electroluminescent devices
Electron transport
Glass substrates
Hole transport
Humidity
Phosphors
(structure and properties of org. **electroluminescent** devices)

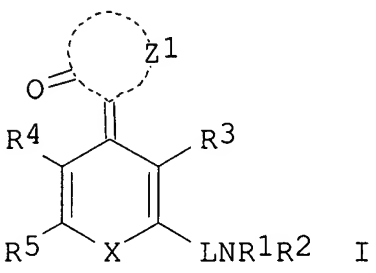
IT Polymers, uses
(structure and properties of org. **electroluminescent** devices)

IT Electrodes
(transparent; structure and properties of org. **electroluminescent** devices)

IT 1304-28-5, Barium oxide (BaO), uses 1305-78-8, Calcium oxide (CaO), uses 1309-48-4, Magnesium oxide (MgO), uses 1314-11-0, Strontium oxide (SrO), uses 7732-18-5, Water, uses 37271-44-6 50926-11-9, ITO 58328-31-7 65181-78-4, TPD 94928-86-6 123847-85-8, .alpha.-NPD **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(structure and properties of org. **electroluminescent** devices)

L35 ANSWER 21 OF 57 HCA COPYRIGHT 2005 ACS on STN
138:144848 Pyranindenedione derivatives and organic **electroluminescent** device using them. Arai, Kazumi; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003036976 A2 20030207, 24 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-219911 20010719.

GI



I

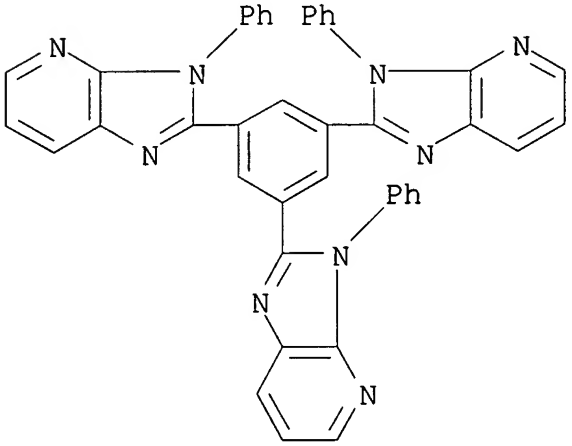
AB The title derivs. are described by I (R1-5 = H or substituents; X = O, S, or NR6; R6 = H or substituents; L = a conjugated moiety; Z1 = 5- or 6-membered ring moiety; I can be a metal complex).

Light-emitting layer comprises .gtoreq.1 I and .gtoreq.1 triplet **light-emitting**/host materials; wherein the triplet **light-emitting** materials contain overlapping emitting spectra and I of energy transfering materials.

IT **313950-73-1**
(**electroluminescent** device and pyranindenedione compds. useable in them)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28, 76

ST pyranindenedione heterocyclic deriv **electroluminescent** device

IT Heterocyclic compounds
(**electroluminescent** device and pyranindenedione compds. useable in them)

IT **Electroluminescent** devices
(pyranindenedione compds. for)

IT 94928-86-6 **313950-73-1** 370878-69-6 494767-60-1
(**electroluminescent** device and pyranindenedione compds. useable in them)

L35 ANSWER 22 OF 57 HCA COPYRIGHT 2005 ACS on STN

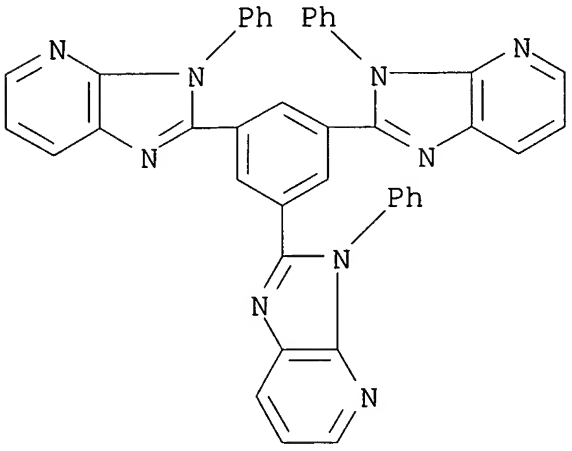
137:360136 **Electroluminescent** device with aryl ring and amine compounds. Igarashi, Tatsuya (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002324678 A2 **20021108**, 33 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-129572 20010426.

AB The invention refers to an **electroluminescent** device comprising an amine compd. with at least two rings and the compd. Ar(Ar11Ar12)(Ar21Ar22)(Ar31Ar32) [Ar = aryl or heteroaryl; Ar11,21,31 = arylene; Ar12,22,32 = H or substituent; where at least one of Ar11-32 is a condensed ring aryl or heteroaryl] in the luminescent layer.

IT **313950-73-1**
(**electroluminescent** device with aryl ring and amine compds.)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST **electroluminescent** device amine arylene

IT **Electroluminescent** devices
(**electroluminescent** device with aryl ring and amine compds.)

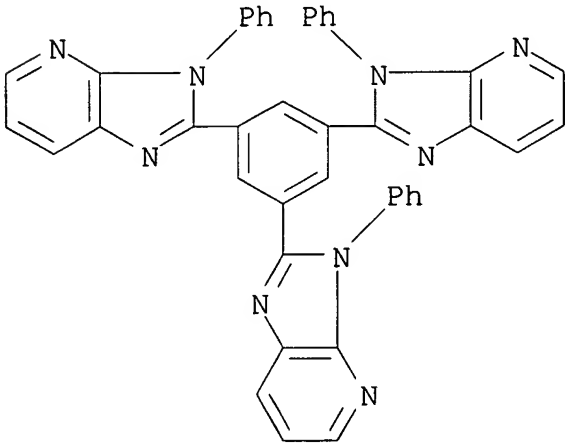
IT **313950-73-1**
(**electroluminescent** device with aryl ring and amine compds.)

IT 58328-31-7P 123847-85-8P, NPD 151965-47-8P 349666-25-7P 349666-26-8P 349666-27-9P 349666-28-0P 349666-29-1P 349669-77-8P 349669-79-0P 349669-81-4P
(**electroluminescent** device with aryl ring and amine compds.)

IT 90-44-8, 9(10H)-Anthracenone 626-39-1, 1,3,5-Tribromobenzene 636-28-2, 1,2,4,5-Tetrabromobenzene 7511-49-1 68572-88-3 349666-24-6 474502-16-4
(**electroluminescent** device with aryl ring and amine

compds.)
IT 349666-30-4P 474302-40-4P
(**electroluminescent** device with aryl ring and amine compds.)

L35 ANSWER 23 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:343735 **Electroluminescent** device with arylene derivatives.
Igarashi, Tatsuya (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002324677 A2 **20021108**, 24 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 2001-129571 20010426.
AB The invention refers to an **electroluminescent** device comprising at least two arylene derivs. N(Ar11Ar12)(Ar21Ar22)(Ar31Ar32) [Ar11,21,31 = arylene; Ar12,22,32 = substituent or H; and at least one of Ar11,21,31,12,22,32 is a condensed aryl or heteroaryl; Ar = arylene or heteroarylene] in the luminescent layer.
IT **313950-73-1**
(**electroluminescent** device with arylene derivs.)
RN 313950-73-1 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST arylene hetero **electroluminescent** device
IT **Electroluminescent** devices
(**electroluminescent** device with arylene derivs.)
IT 247575-24-2 **313950-73-1** 349666-32-6 474302-39-1
(**electroluminescent** device with arylene derivs.)
IT 7059-70-3P 151965-47-8P 349666-25-7P 349666-26-8P
349666-27-9P 349666-28-0P 349666-29-1P 349666-31-5P

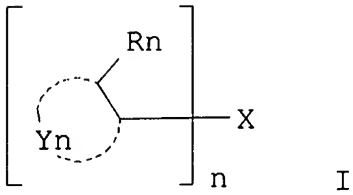
(**electroluminescent** device with arylene derivs.)

IT 90-44-8, Anthrone 626-39-1, 1,3,5-Tribromobenzene 636-28-2, 1,2,4,5-Tetrabromobenzene 68572-88-3 349666-24-6
(**electroluminescent** device with arylene derivs.)

IT 349666-30-4P 474302-40-4P
(**electroluminescent** device with arylene derivs.)

L35 ANSWER 24 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:317668 **Electron-transporting** cyclic compound and **electroluminescent** device using it. Taguchi, Toshiki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002308855 A2 **20021023**, 22 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 2001-107307 20010405.

GI



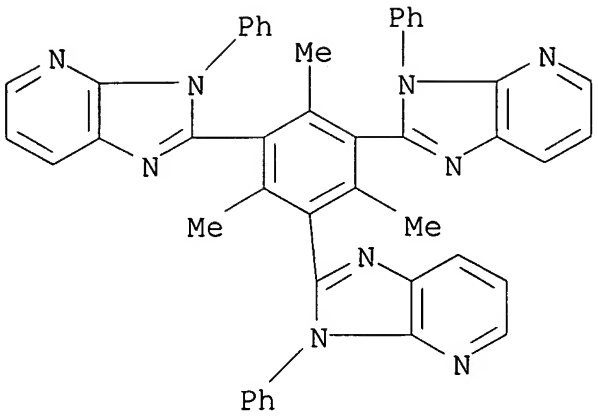
I

AB The **electroluminescent** device uses .gtoreq.1 cyclic compd. I (X = electron-deficient' arom. heterocycle- group; Yn = at. group to form .gtoreq.3-membered ring group; Rn = H, substituent; n .gtoreq.1). The device shows high emission and improved durability in repeated use.

IT **471911-33-8**
(**electron-transporting** cyclic compd. for **electroluminescent** device with improved durability)

RN 471911-33-8 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(2,4,6-trimethyl-1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM C07D235-18
ICS C07D241-12; C07D251-24; C07D263-56; C07D271-06; C07D271-10; C07D285-12; C07D401-14; C07D417-14; C07D519-00; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST **electron transporting** cyclic compd
electroluminescent device; **EL** device
electron transporting cyclic compd

IT **Electroluminescent** devices
(hole-transporting cyclic compd. for **electroluminescent** device with improved durability)

IT 471911-30-5P
(**electron-transporting** cyclic compd. for **electroluminescent** device with improved durability)

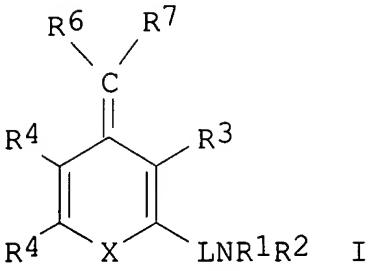
IT 471911-31-6 471911-32-7 **471911-33-8** 471911-34-9
471911-35-0 471911-36-1
(**electron-transporting** cyclic compd. for **electroluminescent** device with improved durability)

IT 947-84-2, 2-Phenylbenzoic acid 10034-93-2, Hydrazine sulfate
(**electron-transporting** cyclic compd. for **electroluminescent** device with improved durability)

L35 ANSWER 25 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:301832 Luminescent element composition. Nii, Kazumi; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). PCT Int. Appl. WO 2002079343 A1 **20021010**, 101 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH,

CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2002-JP3101 20020328. PRIORITY: JP 2001-101027 20010330.

GI



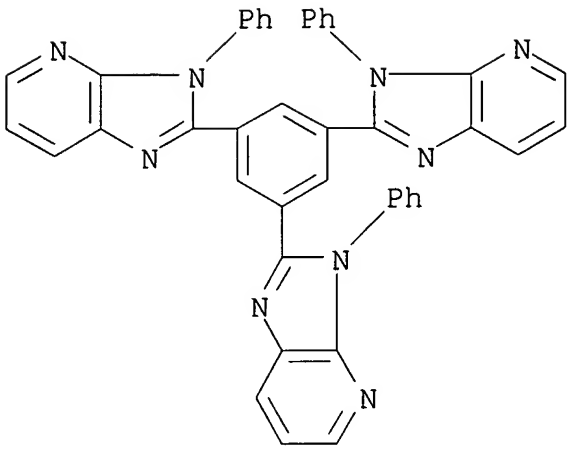
I

AB A luminescent element characterized by comprising a substrate, a pair of electrodes formed thereover, .gtoreq.1 luminescent layer which is disposed between the electrodes and comprises a luminescent material represented by a general formula [I, R1-R5 = H, a substituent; X = O, S, or NR7 (R7 = H or a substituent); L = a connecting group having a conjugated bond; and R6, R7 = H, a substituent, provided that .gtoreq.1 of R6 and R7 = an electron-attracting group.] and a host material, and an org. film which is disposed between the luminescent layer and the cathode so as to be in contact with the luminescent layer and has an ionization potential higher than that of the host material. The compd. represented by I may be in the form of a metal complex.

IT **313950-73-1**
(luminescent element contg. indandione derivs.)

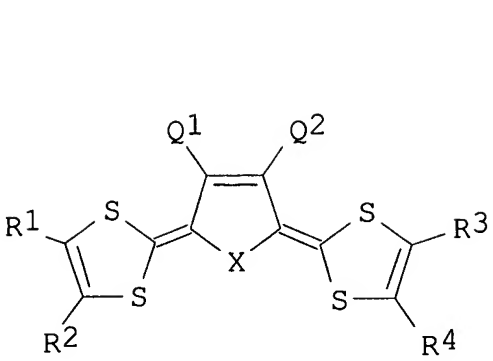
RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)

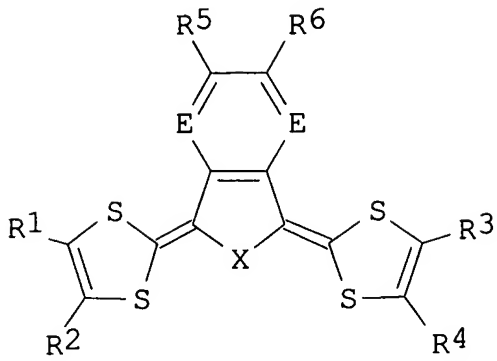


IC ICM C09K011-06
ICS H05B033-14; H05B033-22
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device indanedion
IT Cathodes
Electrodes
Electroluminescent devices
Ionization potential
Luminescent substances
(luminescent element contg. indandione derivs.)
IT 1450-63-1 2085-33-8, Tris(8-quinolinolato)aluminum 4733-39-5
15082-28-7 50926-11-9, ITO 65181-78-4, TPD 151965-47-8
161001-49-6 255709-81-0 303049-16-3 **313950-73-1**
457286-70-3 467449-38-3 467449-45-2
(luminescent element contg. indandione derivs.)

L35 ANSWER 26 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:301831 Organic **electroluminescent** devices. Ise, Toshihiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002299060 A2 **20021011**, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-99974 20010330.
GI



I



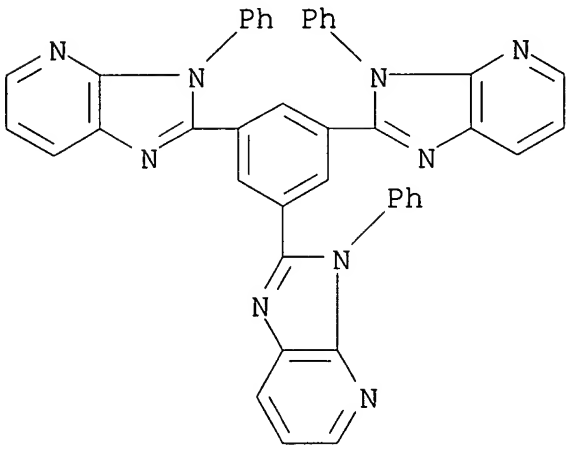
II

AB The devices comprise a pair of electrodes interposing a phosphor comprising a host and a guest compd. having an electron donor-acceptor structure in the doped states, where the guest compd. comprises I, II [R1-6, Q1-2 = H, substituent; X = O, S, Te; E = CH, N; and Q1-2 may form a 5- or 6-membered arom. hydrocarbyl or arom. heterocyclyl moiety].

IT **313950-73-1**
(org. **electroluminescent** devices contg. bisthiodiylidenedithiole derivs.)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



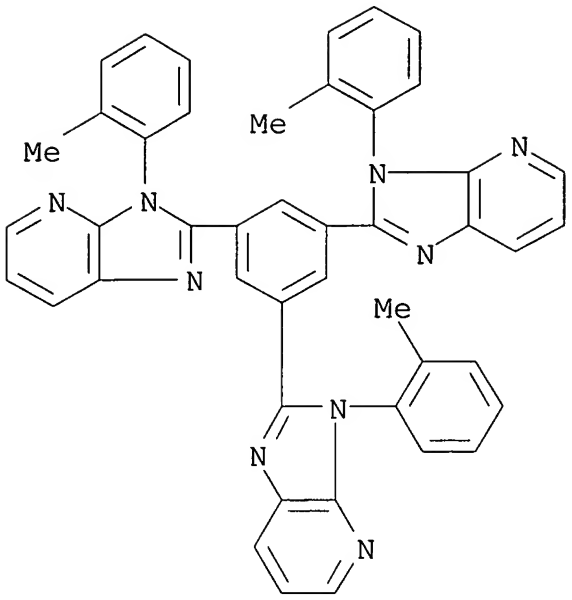
IC ICM H05B033-14
ICS C09K011-06

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device

dithiolyidenedihydrothiophene deriv
IT **Electroluminescent** devices
Electron acceptors
Electron donors
Phosphors
(org. **electroluminescent** devices contg. bisthiodiylidenedithiole derivs.)
IT 51325-91-8, DCM 123847-85-8, [1,1'-Biphenyl]-4,4'-diamine, N,N'-di-1-naphthalenyl-N,N'-diphenyl-
(org. **electroluminescent** devices contg. bisthiodiylidenedithiole derivs.)
IT 2085-33-8 154014-24-1 **313950-73-1** 335274-72-1 467467-47-6 467468-01-5
(org. **electroluminescent** devices contg. bisthiodiylidenedithiole derivs.)

L35 ANSWER 27 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:270214 Manufacture of organic thin-film device, and transfer material and apparatus used in the manufacture. Tateishi, Tomomi; Shibata, Takeshi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002289346 A2 **20021004**, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-89663 20010327.
AB The device such as **electroluminescent** device is manufd. by forming an org. film on a temporary support by wet method to give a transfer material, placing and heating the transfer material on a substrate so that the org. film side faces the substrate, and stripping the temporary support, wherein .gtoreq.2 transfer materials having org. film layers with the same or different compns. or a transfer material having .gtoreq.2 org. film layers having the same of different compns. are used so that the resulting substrate has .gtoreq.2 kinds of transferred org. film layers. The device has good **light-emitting** efficiency, **light emission** uniformity, and durability.
IT **358974-66-0**
(transfer material contg.; manuf. of org. thin-film device with transfer material)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



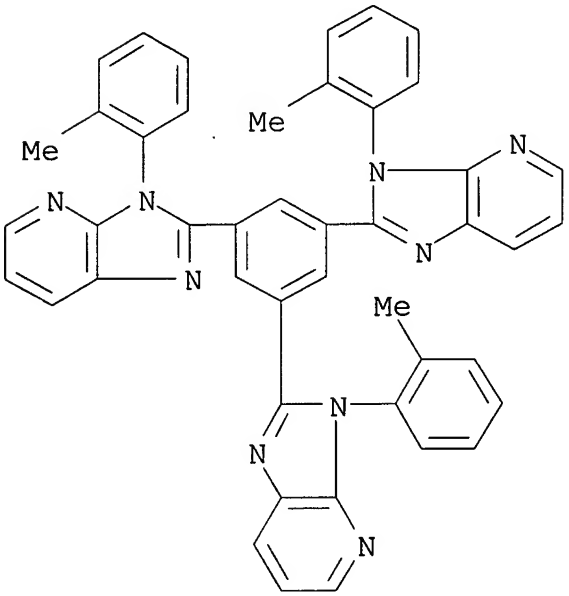
IC ICM H05B033-10
ICS H05B033-12; H05B033-14; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST **electroluminescent** device org film transfer material method app
IT **Electroluminescent** devices
Films
(manuf. of org. thin-film device with transfer material)
IT 25067-59-8, Poly(vinyl carbazole) 94928-86-6, Tris(2-phenylpyridine) iridium **358974-66-0**
(transfer material contg.; manuf. of org. thin-film device with transfer material)

L35 ANSWER 28 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:208147 Organic **electroluminescent** element with high luminance. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002246184 A2 **20020830**, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-37500 20010214.
AB The invention prefers to an org. **electroluminescent** element comprising a front plate, transparent electrode layer, org. compd. later and back plate, wherein the org. compd. layer contains .gtoreq.1 hole injection layer (polyethylene dioxythiophene/polystyrenesulfonate) and **light-emitting** layer.
IT **358974-66-0**
(electronic transport layer; org. **electroluminescent**

element having ethylenedioxythiophene/styrensulfonate-contg. hole injection layer with high liminance)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-26
ICS H05B033-14; H05B033-22; H05B033-28

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST hole injection electrode **electroluminesecent** ethylenedioxythiophene styrenesulfonate

IT Luminescent substances
(**electroluminescent**; having ethylenedioxythiophene/styrensulfonate-contg. hole injection layer with high liminance)

IT **Electroluminescent** devices
(having ethylenedioxythiophene/styrensulfonate-contg. hole injection layer with high liminance)

IT 7429-90-5, Aluminum, uses **358974-66-0**
(electronic transport layer; org. **electroluminescent** element having ethylenedioxythiophene/styrensulfonate-contg. hole injection layer with high liminance)

IT 94928-86-6
(electronic transport material; org. **electroluminescent** element having ethylenedioxythiophene/styrensulfonate-contg. hole injection layer with high liminance)

IT 65181-78-4, N,N'-Diphenyl-N,N'-di(m-tolyl)benzidine

(hole transport layer; org. **electroluminescent** element having ethylenedioxythiophene/styrensulfonate-contg. hole injection layer with high liminance)

IT 58328-31-7, 4,4'-Bis(carbazol-9-yl)biphenyl
(host material; org. **electroluminescent** element having ethylenedioxythiophene/styrensulfonate-contg. hole injection layer with high liminance)

IT 332951-15-2
(org. **electroluminescent** element having ethylenedioxythiophene/styrensulfonate-contg. hole injection layer with high liminance)

L35 ANSWER 29 OF 57 HCA COPYRIGHT 2005 ACS on STN

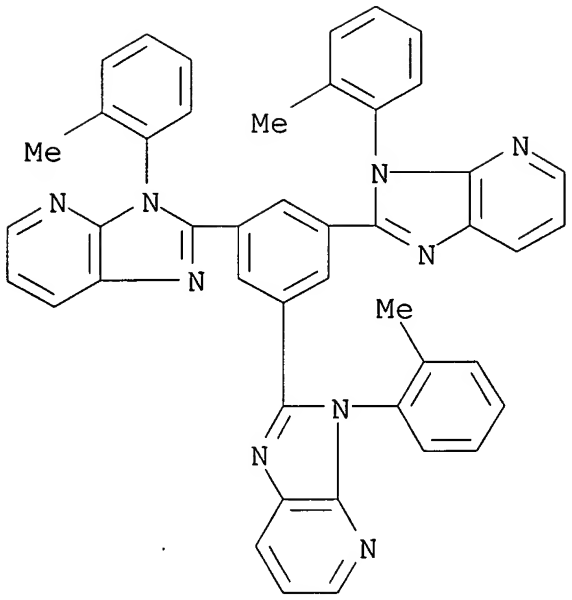
137:192553 Organic **electroluminescent** devices using thermoplastic substrates and their manufacture. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002246172 A2 **20020830**, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-37501 20010214.

AB The org. **EL** device has a thermoplastic substrate having thereon transparent electrodes, .gtoreq.1 org. compd. layers involving luminescent layers, back electrodes, and a thermoplastic sealing which seals the org. compd. layer(s) and shields outside airs and is fused with the thermoplastic substrate around the periphery of the luminescent laminate to offer excellent brightness, luminescent efficiency and durability. The device is useful for full color displays, back lights, surface light sources, light source arrays for printers, etc.

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(**electron transporting** layer; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-04
ICS H05B033-02; H05B033-10; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device thermoplastic substrate durability; sealing thermoplastic substrate org **electroluminescent** device

IT Fluoropolymers, uses
(Nitoflon, substrate; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT Polycarbonates, uses
(Panlite, substrate; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT Polyesters, uses
(Tetoron Film, substrate; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT Sealing
(manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT **Electroluminescent** devices
(org.; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT Plastics, uses
(thermoplastics, substrates; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT 117944-65-7, Indium zinc oxide
(IZO, transparent electrode; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT 7440-22-4, Silver, uses 12614-86-7
(Mg-Ag/Ag laminate back electrode; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT 1312-43-2, Indium oxide (In2O3)
(Zn-doped In2O3 transparent electrode; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT 7440-66-6, Zinc, uses
(dopant, Zn-doped In2O3 transparent electrode; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(**electron transporting** layer; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT 15082-28-7, 2-(4-Biphenylyl)-5-(4-tert-butylphenyl)-1,3,4-oxadiazole 123847-85-8
(**electron-transporting** material; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT 155090-83-8, Baytron P
(hole injection layer; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT 25067-59-8, Poly(vinylcarbazole)
(hole transporting/host material; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

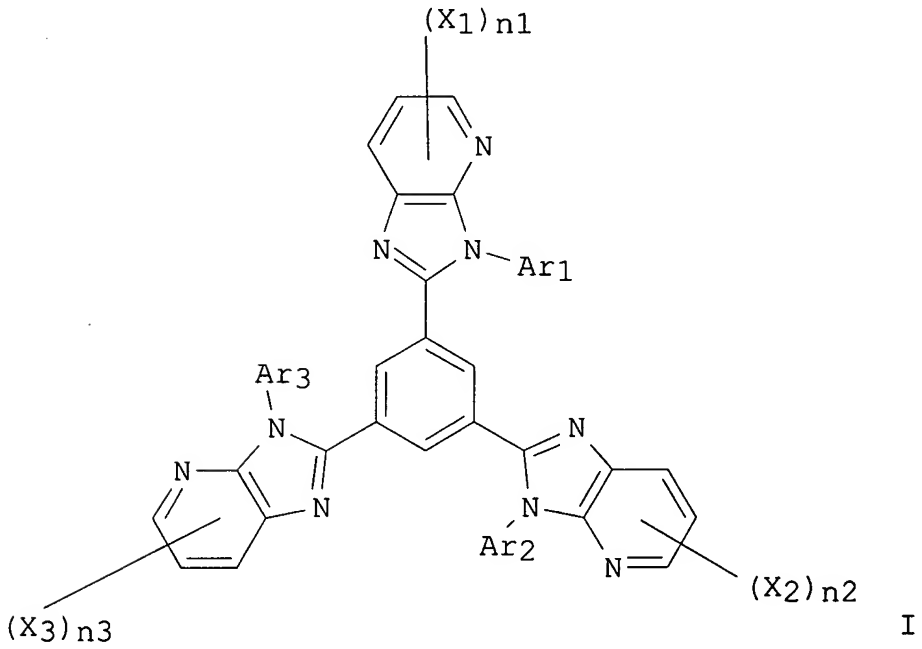
IT 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl
(host material; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

IT 94928-86-6, Tris(2-phenylpyridine)iridium
(phosphor; manuf. of org. **EL** devices using thermoplastic substrates sealed with thermoplastic sealings for enhanced durability)

L35 ANSWER 30 OF 57 HCA COPYRIGHT 2005 ACS on STN

137:147576 White- or blue-emitting organic **electroluminescent** (**EL**) elements with excellent emission efficiency and color purity. Ishii, Masahiko; Noda, Hiroshi; Miura, Atsushi; Owaki, Takeshi; Taga, Yasunori; Okada, Hisashi; Igarashi, Tatsuya (Toyota Central Research and Development Laboratories, Inc., Japan; Fuji Photo Film Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 2002216971 A2 **20020802**, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-11354 20010119.

GI



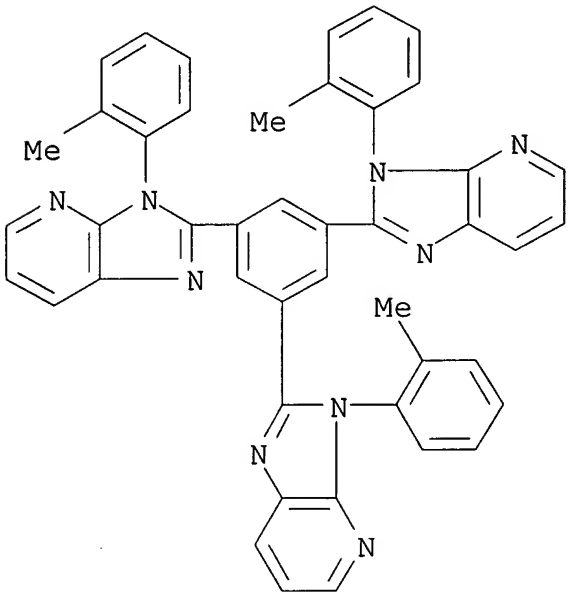
I

AB The element with emission peak 400-500 nm, useful for a liq. crystal display backlight, has a hole transport layer, an org. **light-emitting** layer, and an org. **electron transport** layer contg. I (Ar1,2 = aryl, arom. heterocyclic group; X1-3 = substituent; n1-3 = 0-3). The **light-emitting** layer may include a layer for emitting a yellow-orange light with wavelength 550-600 nm and a layer for **emitting** a blue **light** with wavelength 400-500 nm, wherein the **electron transport** layer is formed between the **light-emitting** layer and a cathode.

IT **358974-66-0**

(**electron transport** layer or hole blocking layer; white- or blue-emitting org. **EL** elements with

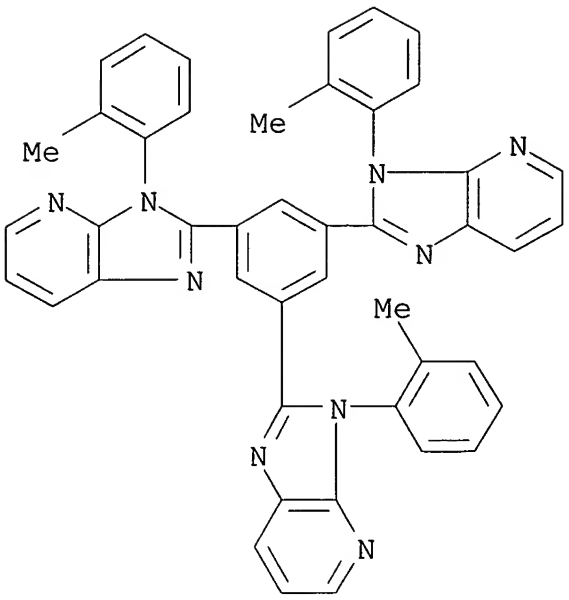
good emission efficiency and color purity)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-22
ICS H05B033-22; C09K011-06; H05B033-12; H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** element white emission efficiency; blue emitting **EL electron transport** layer; liq crystal display backlight blue emitting **EL**
IT **Electroluminescent** devices
(blue-emitting; white- or blue-emitting org. **EL** elements with good emission efficiency and color purity)
IT **Electroluminescent** devices
(white-emitting; white- or blue-emitting org. **EL** elements with good emission efficiency and color purity)
IT 349666-25-7
(blue-emitting layer; white- or blue-emitting org. **EL** elements with good emission efficiency and color purity)
IT 517-51-1, Rubren
(dopant, yellow-emitting layer; white- or blue-emitting org. **EL** elements with good emission efficiency and color purity)
IT **358974-66-0**
(**electron transport** layer or hole blocking layer; white- or blue-emitting org. **EL** elements with

good emission efficiency and color purity)
IT 2085-33-8, Tris-(8-hydroxyquinoline)aluminum
(**electron transport** layer; white- or blue-emitting org. **EL** elements with good emission efficiency and color purity)
IT 167218-46-4
(hole transport layer or yellow-emitting layer; white- or blue-emitting org. **EL** elements with good emission efficiency and color purity)

L35 ANSWER 31 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:131907 Manufacture of organic **electroluminescent** devices having high-brightness and high-efficiency emission. Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002216956 A2 **20020802**, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-11826 20010119.
AB The org. **EL** device capable of uniform surface emission consists of a pair of electrodes on a substrate, and in between, .gtoreq.1 org. compd. layers formed by applying its soln. thinned with a F compd.-contg. solvent and preferably, contg. .gtoreq.1 ionic substances. Preferably, the device has another layer of the org. compd. formed by applying its soln. thinned with a solvent free from the F compd. The F compd. may be fluorinated alcs., F-substituted ketones, F-substituted esters, fluorinated carboxylic acids, F-substituted amides, F-substituted alkanes, F-substituted arom. compds., and/or fluorinated ethers. The fluorinated alcs. may be shown as ACH2OH [A = CF3, CHF2(CF2)n; n = 1-5 integer]. Preferably, .gtoreq.1 layers of the org. compd. layers contain polymers which may be .pi.-conjugated polymers or nonconjugated polymers having .pi.-conjugation in partial structures. The substrate may be a plastic, preferably selected from polycarbonates, poly(ethylene terephthalate), poly(Me methacrylate), polyimides, polyesters, polyethers, polyether-sulfones, epoxy resins, polyolefins, and poly(vinyl chloride).
IT **358974-66-0**
(org. layer; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-10
ICS C08K005-05; C08L101-00; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device fluorine compd solvent; plastic substrate org **electroluminescent** device; **luminescent** substance **org** fluorinated alc solvent

IT Polyvinyl butyrals
(org. layer; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT **Electroluminescent** devices
(org.; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT Polysulfones, uses
(polyether-, substrate; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT Polyethers, uses
(polysulfone-, substrate; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT Epoxy resins, uses
Polycarbonates, uses
Polyesters, uses
Polyethers, uses
Polyimides, uses
Polyolefins

(substrate; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 905-62-4, 2,5-Bis(1-naphthyl)-1,3,4-oxadiazole
(**electron** injection and **transporting** layer; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 25067-59-8, Poly(N-vinylcarbazole)
(hole injection and transporting layer; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 76-37-9, 2,2,3,3-Tetrafluoropropyl alcohol 107-06-2, 1,2-Dichloroethane, uses 60838-59-7
(manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 15635-95-7 110517-99-2 **358974-66-0**
(org. layer; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 9002-86-2, Poly(vinyl chloride) 9011-14-7, Poly(methyl methacrylate) 25038-59-9, Poly(ethylene terephthalate), uses
(substrate; manuf. of org. **EL** devices involving org. compd. layers formed by using F compd.-contg. solvents)

L35 ANSWER 32 OF 57 HCA COPYRIGHT 2005 ACS on STN

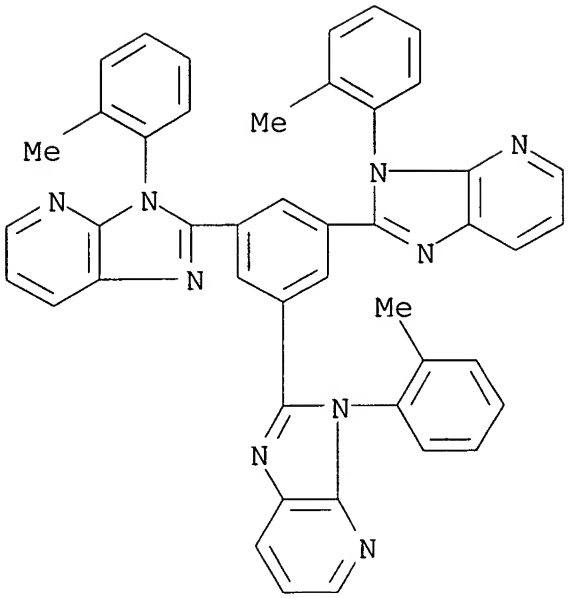
137:39104 Organic **electroluminescent** devices. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002175882 A2 **20020621**, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-373520 20001207.

AB The devices comprise: a polymer substrate (polyester, polycarbonate, polyethersulfone or fluoropolymer) having an oxygen permeability at 25.degree. < 2.0 x 10-13 ([cm3][cm])/([cm2][s][pa]); a 1st and a 2nd electrode; an org. phosphor; a hole and an **electron transport** layer; and a stainless steel encapsulation.

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-04
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device
IT **Electroluminescent** devices
Electron transport
Hole transport
Permeability
Phosphorescence
Phosphors
Printing apparatus
(org. **electroluminescent** devices)
IT Fluoropolymers, uses
Polycarbonates, uses
Polyesters, uses
(org. **electroluminescent** devices)
IT Polysulfones, uses
(polyether-; org. **electroluminescent** devices)
IT Polyethers, uses
(polysulfone-; org. **electroluminescent** devices)
IT Electrodes
(transparent; org. **electroluminescent** devices)
IT 852-38-0, PBD 1314-13-2, Zinc oxide (ZnO), uses 7631-86-9, Silica, uses 12597-68-1, Stainless steel, uses 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 58328-31-7 94928-86-6, Tris(2-phenylpyridine)iridium 123847-85-8 **358974-66-0**,

2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices)

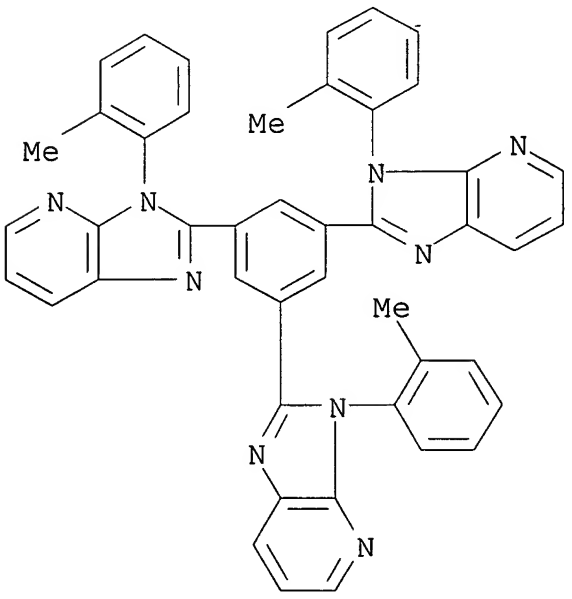
L35 ANSWER 33 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:39103 Organic **electroluminescent** devices. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002175881 A2 **20020621**, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-373518 20001207.

AB The devices comprise: a polymer substrate (polyester, polycarbonate, polyethersulfone or fluoropolymer) having an oxygen permeability at 25.degree. < 2.0 x 10-13 ([cm3][cm])/([cm2][s][pa]); a 1st and a 2nd electrode; an org. phosphor; a hole and an **electron transport** layer; and a stainless steel encasement contg. an oxygen absorber.

IT **358974-66-0**
(org. **electroluminescent** devices)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-22

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device

IT **Electroluminescent** devices
Electron transport

Hole transport
Permeability
Phosphorescence
Phosphors
Printing apparatus
(org. **electroluminescent** devices)

IT Fluoropolymers, uses
Polycarbonates, uses
Polyesters, uses
(org. **electroluminescent** devices)

IT Polysulfones, uses
(polyether-; org. **electroluminescent** devices)

IT Polyethers, uses
(polysulfone-; org. **electroluminescent** devices)

IT Electrodes
(transparent; org. **electroluminescent** devices)

IT 101-02-0, Triphenylphosphite 128-37-0, 2,6-Di-tert-butyl-4-methylphenol, uses 852-38-0, PBD 1314-13-2, Zinc oxide (ZnO), uses 1345-25-1, Ferrous oxide, uses 7439-95-4, Magnesium, uses 7631-86-9, Silica, uses 12597-68-1, Stainless steel, uses 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 58328-31-7 94928-86-6, Tris(2-phenylpyridine)iridium 123847-85-8 **358974-66-0**
(org. **electroluminescent** devices)

L35 ANSWER 34 OF 57 HCA COPYRIGHT 2005 ACS on STN

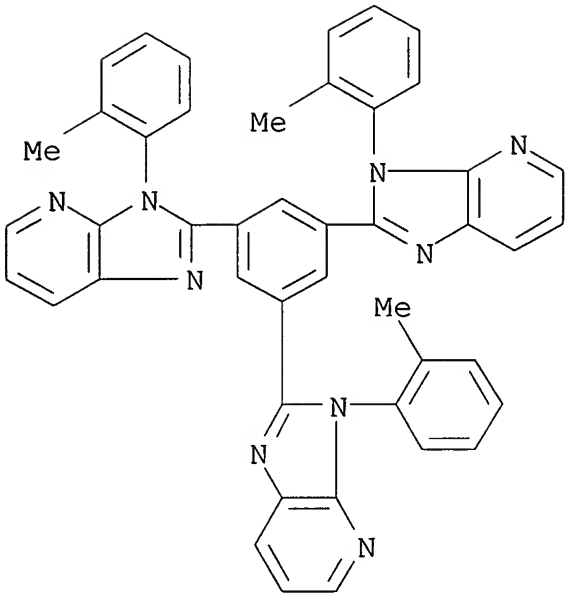
137:39102 Organic **electroluminescent** devices. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002175876 A2 **20020621**, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-373519 20001207.

AB The devices comprise: a polymer substrate (polyester, polycarbonate, polyethersulfone or fluoropolymer) having an oxygen permeability at 25.degree. < 2.0 x 10-13 ([cm3][cm])/([cm2][s][pa]); a 1st and a 2nd electrode; an org. phosphor; and a hole and an **electron transport** layer.

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



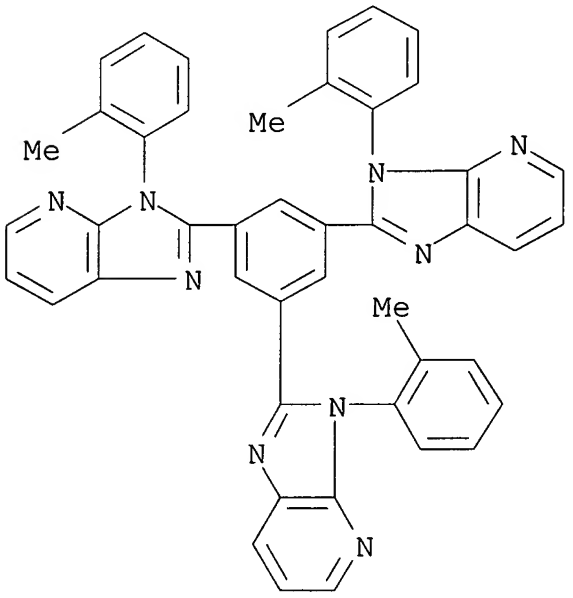
IC ICM H05B033-02
ICS C09K011-06; H05B033-10; H05B033-14
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device
IT **Electroluminescent** devices
Electron transport
Hole transport
Permeability
Phosphorescence
Phosphors
Printing apparatus
(org. **electroluminescent** devices)
IT Fluoropolymers, uses
Polycarbonates, uses
Polyesters, uses
(org. **electroluminescent** devices)
IT Polysulfones, uses
(polyether-; org. **electroluminescent** devices)
IT Polyethers, uses
(polysulfone-; org. **electroluminescent** devices)
IT Electrodes
(transparent; org. **electroluminescent** devices)
IT 852-38-0, PBD 1314-13-2, Zinc oxide (ZnO), uses 7631-86-9, Silica, uses 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 58328-31-7 94928-86-6, Tris(2-phenylpyridine)iridium 123847-85-8 **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-

methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices)

L35 ANSWER 35 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:12994 Organic **electroluminescent** devices and manufacture. Mishima, Masayuki; Fujimura, Hidetoshi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002170677 A2 **20020614**, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-364649 20001130.

AB The devices comprise: a glass substrate; and an ITO electrode, a hole-injection, a hole transport, a phosphor, an **electron transport** and a Mg/Ag electrode layer, where the lamination is formed in an atm. contg. no oxygen.

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)-tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices and manuf.)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS H05B033-10
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device manuf
IT Atmosphere (environmental)
Electroluminescent devices
Electron transport

Glass substrates
Hole transport
(org. **electroluminescent** devices and manuf.)

IT 852-38-0, PBD 7439-95-4, Magnesium, uses 7440-22-4, Silver, uses 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 94928-86-6, Tris(2-phenyl pyridine)iridium **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)-tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices and manuf.)

IT 7782-44-7, Oxygen, reactions
(org. **electroluminescent** devices and manuf.)

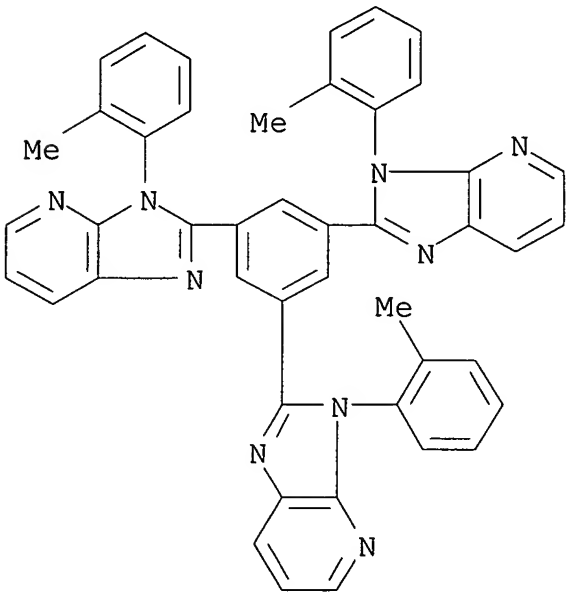
L35 ANSWER 36 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:12993 Organic **electroluminescent** devices and manufacture.
Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002170676 A2 **20020614**, 8 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 2000-370149 20001205.

AB The devices comprise: a glass substrate; and an ITO electrode, a hole-injection, a hole transport, a phosphor, an **electron transport**, an **electron** injection and a Mg/Ag electrode layer, where the lamination is formed in an atm. contg. oxygen < 100 ppm.

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)-tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(Org. **electroluminescent** devices and manuf.)

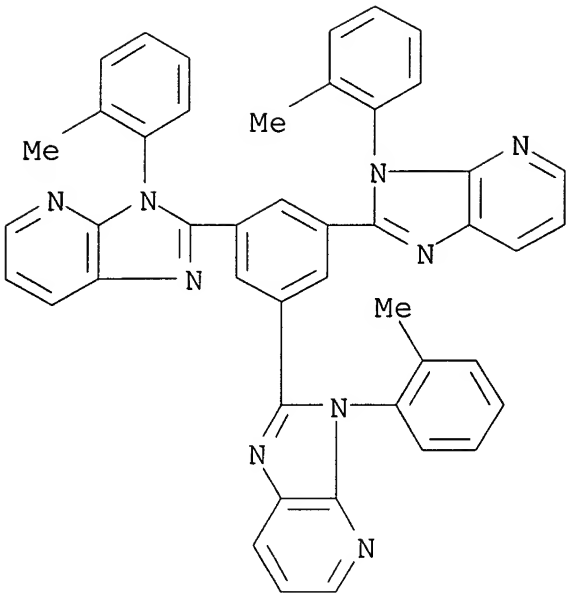
RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-10
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device manuf
IT Atmosphere (environmental)
Electroluminescent devices
Electron transport
Glass substrates
Hole transport
(Org. **electroluminescent** devices and manuf.)
IT 852-38-0, PBD 7439-95-4, Magnesium, uses 7440-22-4, Silver, uses 25067-59-8, Polyvinyl carbazole 94928-86-6, Tris(2-phenyl pyridine)iridium **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)-tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(Org. **electroluminescent** devices and manuf.)
IT 7782-44-7, Oxygen, reactions
(Org. **electroluminescent** devices and manuf.)
IT 50926-11-9, ITO
(org. **electroluminescent** devices and manuf.)

L35 ANSWER 37 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:12990 Organic **electroluminescent** devices and manufacture. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002170672 A2 **20020614**, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-370151 20001205.
AB The devices comprise: a glass substrate; and an ITO electrode, a hole-injection, a hole transport, a phosphor, an **electron transport** and a Mg/Ag electrode layer, where the lamination is formed in an atm. contg. H2O < 100 ppm and oxygen < 100 ppm.
IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)-tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices and manuf.)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-10
ICS C09K011-06; H05B033-04; H05B033-14
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device manuf
IT Atmosphere (environmental)
Electroluminescent devices
Electron transport
Glass substrates
Hole transport
(org. **electroluminescent** devices and manuf.)
IT 852-38-0, PBD 7439-95-4, Magnesium, uses 7440-22-4, Silver, uses 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 94928-86-6, Tris(2-phenyl pyridine)iridium **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)-tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices and manuf.)
IT 7732-18-5, Water, reactions 7782-44-7, Oxygen, reactions
(org. **electroluminescent** devices and manuf.)

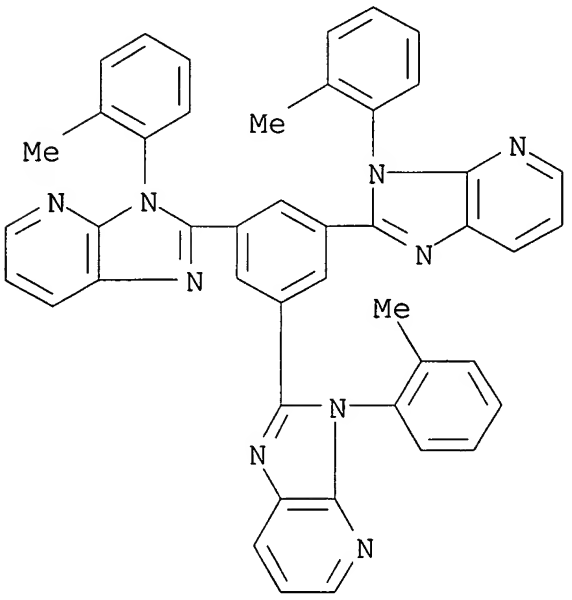
L35 ANSWER 38 OF 57 HCA COPYRIGHT 2005 ACS on STN
137:12989 Organic **electroluminescent** devices and manufacture. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002170665 A2 **20020614**, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-370150 20001205.
AB The devices comprise: a glass substrate; and an ITO electrode, a hole-injection, a hole transport, a phosphor, an **electron**

transport and a Mg/Ag electrode layer, where the lamination is formed in an atm. contg. oxygen < 100 ppm.

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)-tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices and manuf.)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-04
ICS C09K011-06; H05B033-10; H05B033-14

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device manuf

IT Atmosphere (environmental)
Electroluminescent devices
Electron transport
Glass substrates
Hole transport
(org. **electroluminescent** devices and manuf.)

IT 7439-95-4, Magnesium, uses 7440-22-4, Silver, uses 50926-11-9, ITO 58328-31-7 94928-86-6, Tris(2-phenyl pyridine)iridium 123847-85-8 **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl)-tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
(org. **electroluminescent** devices and manuf.)

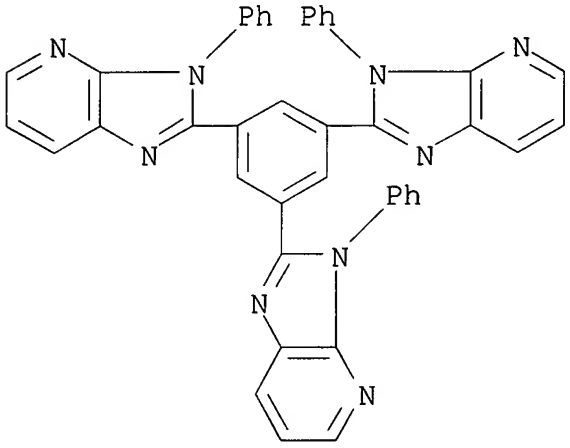
IT 7782-44-7, Oxygen, reactions
(org. **electroluminescent** devices and manuf.)

L35 ANSWER 39 OF 57 HCA COPYRIGHT 2005 ACS on STN
136:393076 **Electroluminescent** device with phosphor component.
Mishima, Masayuki; Okada, Hisashi; Araki, Katsumi; Qiu, Xue-Peng; Ise, Toshihiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002158091 A2 **20020531**, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-350170 20001116.

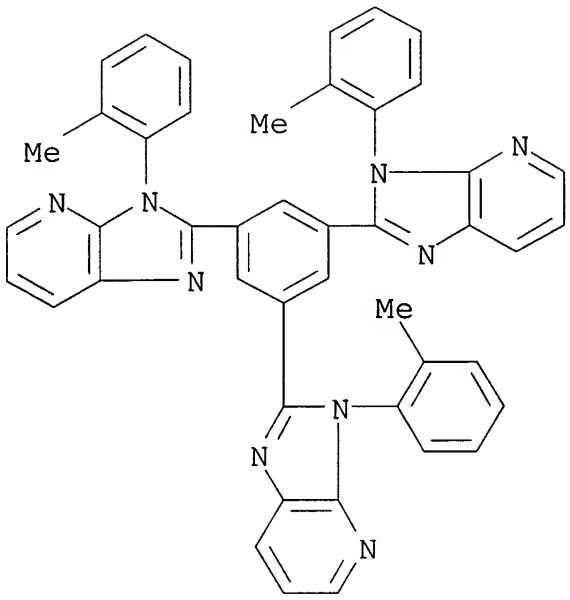
AB The invention refers to an **electroluminescent** device with an **electron transport** layer and an org. layer comprising a hole transport layer and a luminescent phosphor layer in a two or three layer structure for increased brightness and reduced costs.

IT **313950-73-1 358974-66-0 428455-07-6**
(**electroluminescent** component)

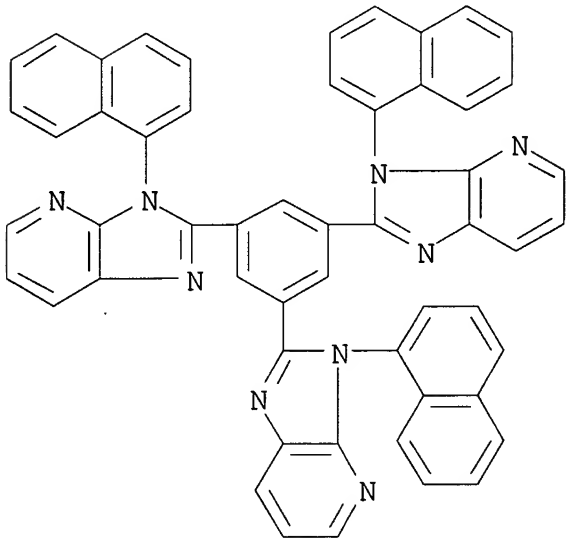
RN 313950-73-1 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



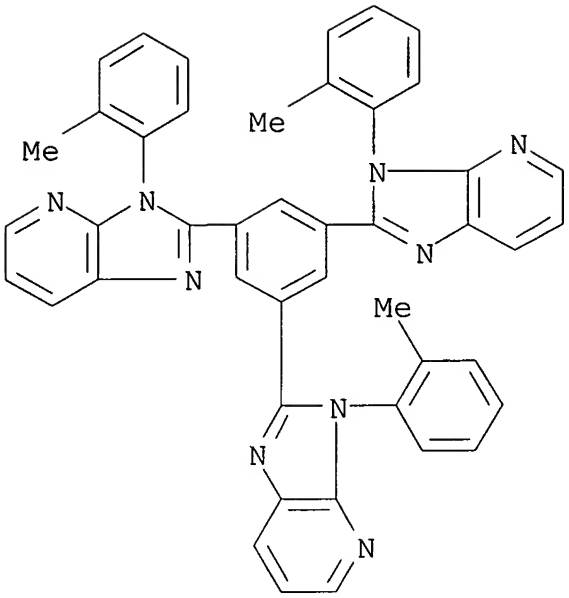
RN 428455-07-6 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(1-naphthalenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-10; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST **electroluminescent** device phosphor

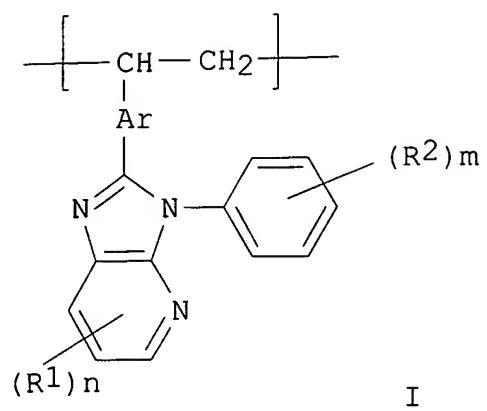
IT **Electroluminescent** devices
Phosphors
(**electroluminescent** component)
IT 6726-80-3 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl 65181-78-4, N, N'-Bis(3-methylphenyl)-N,N'-diphenylbenzidine 94928-86-6 155090-83-8, Baytron P **313950-73-1 358974-66-0** 377092-02-9 **428455-07-6**
(**electroluminescent** component)

L35 ANSWER 40 OF 57 HCA COPYRIGHT 2005 ACS on STN
136:393052 Single layer organic **electroluminescent** device.
Araki, Katsumi; Okada, Hisashi; Qiu, Xue Peng; Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002151267 A2 **20020524**, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-348403 20001115.
AB The **electroluminescent** device comprises an org. compd. single layer contg. a **light-emitting** compd. sandwiched between a pair of electrodes; wherein electron mobility of the org. compd. layer is .gtoreq.(3 .times. 10-5)cm2.V-1.s-1 in an elec. field strength 400-1000 (V/cm)1/2. The device is capable of low-voltage operation, high luminance, high emission efficiency. and good high-temp. storage stability.
IT **358974-66-0**
(**electron**-injection and -**transport** material; single layer org. **electroluminescent** device)
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)

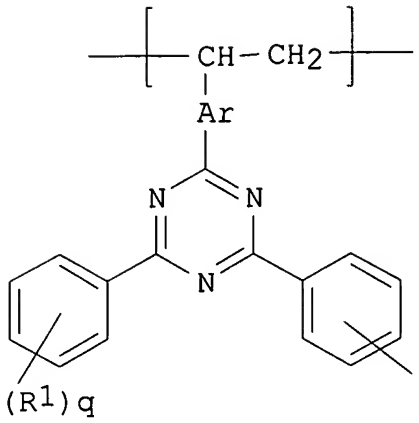


IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38
ST org **electroluminescent** device electron mobility control
IT **Electroluminescent** devices
(org.; single layer org. **electroluminescent** device)
IT Electron mobility
(single layer org. **electroluminescent** device)
IT 4733-39-5 15082-28-7 26916-42-7 292624-58-9 353800-94-9 **358974-66-0**
(**electron**-injection and -**transport** material; single layer org. **electroluminescent** device)
IT 58328-31-7 65181-78-4
(host for phosphorscent substance; single layer org. **electroluminescent** device)

L35 ANSWER 41 OF 57 HCA COPYRIGHT 2005 ACS on STN
136:377202 **Light-emitting** device and material therefor. Okada, Hisashi; Ise, Toshihiro; Mishima, Masayuki; Taguchi, Toshiki (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2002055014 A1 **20020509**, 91 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-935711 20010824. PRIORITY: JP 2000-254171 20000824; JP 2001-38718 20010215; JP 2001-236419 20010803.
GI



I



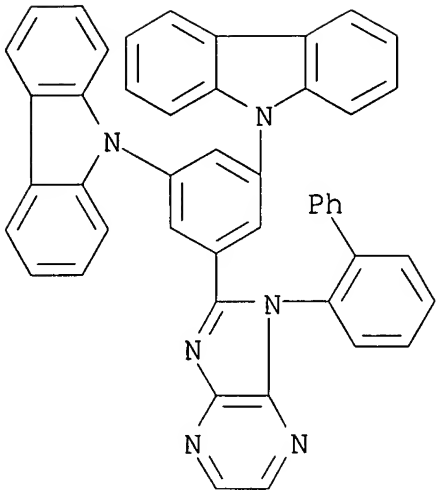
II

AB **Light-emitting** devices comprising a pair of electrodes formed on a substrate and org. compd. layers comprising a **light-emitting** layer provided in between the electrodes are described in which .gtoreq.1 of the org. compd. layers comprises a heterocyclic compd. having .gtoreq.2 atoms and a phosphorescent compd.; polymers with repeating units described by the general formulas I and II (Ar = arylene or divalent heterocyclic group; R1 and R2 = independently selected H or substituent; n = 0-3; q = 0-5; and m = 0-5), which may be employed as the heterocyclic compds. in the devices, are also described. The devices may also employ polymers of heterocyclic compds. from which AR is absent. The phosphorescent compd. may be an org. metal complex.

IT **422574-85-4**
(**light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

RN 422574-85-4 HCA

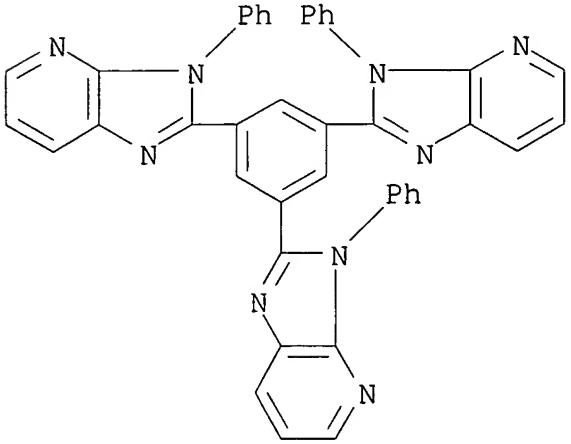
CN 9H-Carbazole, 9,9'-[5-(1-[1,1'-biphenyl]-2-yl-1H-imidazo[4,5-b]pyrazin-2-yl)-1,3-phenylene]bis- (9CI) (CA INDEX NAME)



IT **313950-73-1P 328238-10-4P 358974-66-0P**
377092-06-3P 377092-10-9P
(**light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

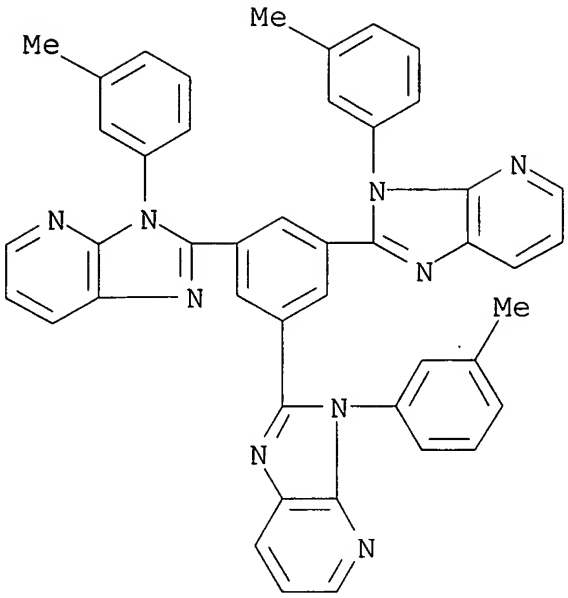
RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)

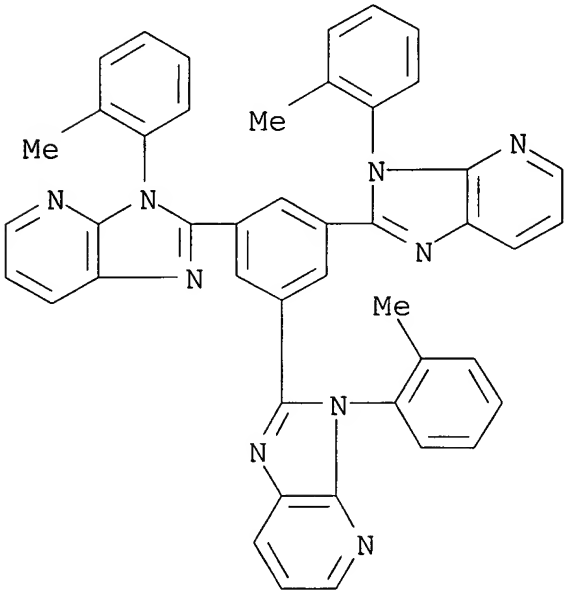


RN 328238-10-4 HCA

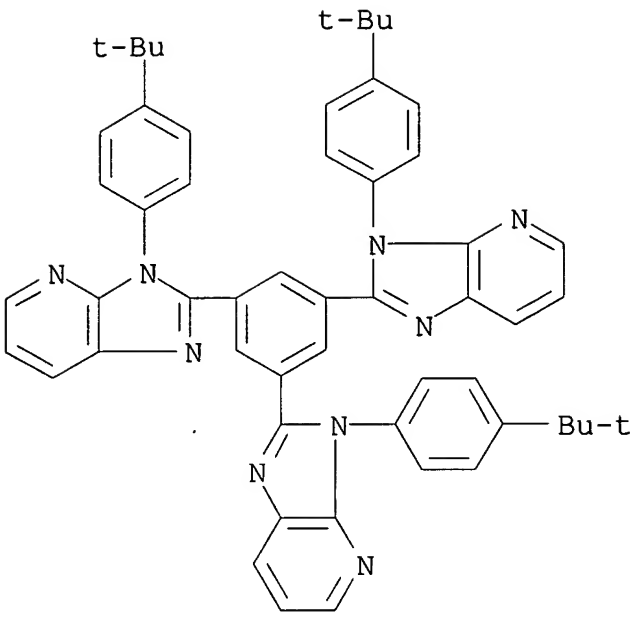
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(3-methylphenyl)- (9CI) (CA INDEX NAME)



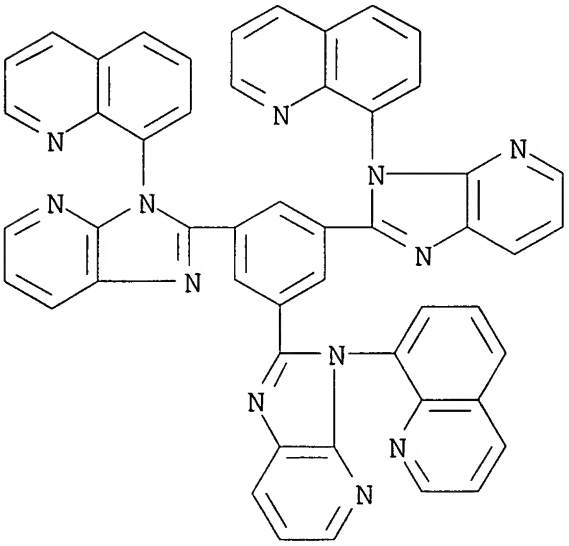
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



RN 377092-06-3 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 377092-10-9 HCA
CN Quinoline, 8,8',8''-[1,3,5-benzenetriyltris(3H-imidazo[4,5-b]pyridine-2,3-diyl)]tris- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C08F026-06
INCL 428690000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 27, 28, 38, 76

ST **electroluminescent** device heterocycle phosphorescent compd mixt active layer; polymer heterocycle phosphorescent compd mixt active layer **electroluminescent** device

IT Phosphorescent substances
(**light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT Polycarbonates, uses
(**light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT **Electroluminescent** devices
(org.; **light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproine 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses 12033-89-5, Silicon nitride, uses 15082-28-7 24964-91-8, Tris(4-bromophenyl)aminium hexachloroantimonate 25067-59-8, Poly(N-vinylcarbazole) 37271-44-6 38215-36-0, Coumarin-6 50926-11-9, ITO 51269-91-1 58328-31-7 65181-78-4, N,N'-Bis(3-methylphenyl)-N,N'-diphenylbenzidine 94928-86-6 153838-48-3 173394-18-8 182069-71-2 343978-78-9 350025-75-1 350025-76-2 350025-78-4 350025-79-5 359014-69-0 370878-69-6 377092-13-2 422574-54-7, Silicon nitride oxide (SiN0.3O0.7) 422574-58-1 422574-60-5 422574-62-7 422574-66-1 422574-67-2 422574-68-3 422574-70-7 422574-72-9 422574-73-0 422574-74-1 422574-76-3 422574-77-4 422574-78-5 422574-84-3 **422574-85-4** 422574-86-5 422574-87-6 422574-88-7 422574-89-8 422574-90-1 423117-91-3 423117-92-4 423117-94-6 423117-96-8 423117-97-9 423117-99-1 423118-00-7 423118-01-8 423118-03-0 423118-05-2 423721-05-5 423721-07-7 423721-09-9
(**light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT **313950-73-1P 328238-10-4P 358974-66-0P** 377092-02-9P **377092-06-3P 377092-10-9P** 422574-56-9P 422574-64-9P 422574-83-2P
(**light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT 62-53-3, Aniline, reactions 95-53-4, o-Toluidine, reactions 104-15-4, p-Toluenesulfonic acid, reactions 108-44-1, m-Toluidine, reactions 578-66-5, 8-Aminoquinoline 586-75-4, 4-Bromobenzoyl chloride 603-35-0, Triphenylphosphine, reactions 769-92-6 876-08-4, 4-Chloromethylbenzoyl chloride 2039-82-9, 4-Bromostyrene

2156-04-9, 4-Vinylphenylboronic acid 2351-37-3, 4,4'-Biphenyldicarbonyl chloride 3842-55-5, 2-Chloro-4,6-diphenyl-1,3,5-triazine 4422-95-1, 1,3,5-Benzenetricarbonyl trichloride 5470-18-8, 2-Chloro-3-nitropyridine
(**light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT 34949-41-2P 54696-64-9P 54696-67-2P 78750-58-0P 350025-73-9P 350025-74-0P 377092-01-8P 377092-03-0P 377092-04-1P 377092-05-2P 377092-07-4P 377092-08-5P 422574-55-8P 422574-61-6P 422574-63-8P 422574-79-6P 422574-80-9P 422574-81-0P 422574-82-1P
(**light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT 50851-57-5
(polyethylene dioxythiophene doped with; **light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT 126213-51-2, Poly(3,4-ethylenedioxythiophene)
(polystyrene sulfonate-doped; **light-emitting** devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

L35 ANSWER 42 OF 57 HCA COPYRIGHT 2005 ACS on STN

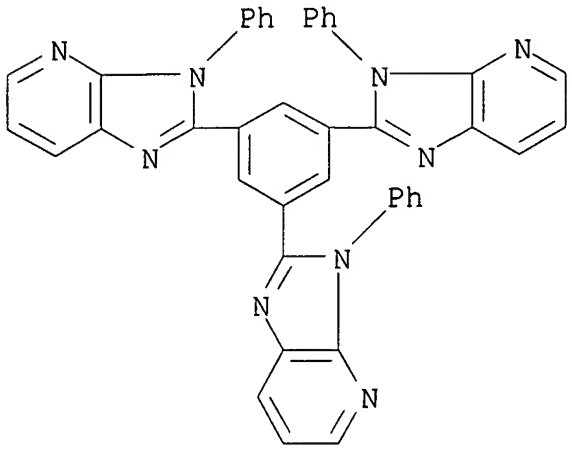
136:207516 **Light-emitting** element and iridium complex. Igarashi, Tatsuya; Ise, Toshihiro; Miyashita, Yousuke; Fujimura, Hidetoshi; Okada, Hisashi; Mishima, Masayuki; Qiu, Xuepeng (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2002024293 A1 **20020228**, 18 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-905996 20010717. PRIORITY: JP 2000-216338 20000717.

AB **Light-emitting** elements are described which have an external quantum efficiency of .gtoreq.5% and a **light emission** max. wavelength .ltoreq.500 nm; devices incorporating phosphorescent materials having phosphorescence quantum yields of .gtoreq.70% at 20.degree. are also described. Preferably the devices include .gtoreq.1 iridium complex with .gtoreq.1 ligand selected from 2-(4-fluorophenyl)pyridine or its derivs. Iridium complexes with .gtoreq.1 ligand selected from 2-(4-fluorophenyl)pyridine or its derivs., including 2-(2,4-difluorophenyl)pyridine and its derivs., are also described.

IT **313950-73-1**
(**light-emitting** elements and iridium complexes of fluorophenylpyridine derivs.)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H01J001-62
ICS C07F015-00
INCL 313483000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78
ST fluorophenylpyridine iridium complex **light emitting** element
IT **Electroluminescent** devices
Phosphorescent substances
(**light-emitting** elements and iridium complexes of fluorophenylpyridine derivs.)
IT 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses 37271-44-6 50926-11-9, ITO 65181-78-4, TPD 123847-85-8 148044-07-9 **313950-73-1** 342638-54-4 351863-09-7
(**light-emitting** elements and iridium complexes of fluorophenylpyridine derivs.)
IT 370878-69-6P 376367-95-2P 391611-76-0P 391665-84-2P
(**light-emitting** elements and iridium complexes of fluorophenylpyridine derivs.)
IT 123-54-6, Acetylacetone, reactions 15635-87-7 58861-53-3, 2-(4-Fluorophenyl)pyridine 391250-41-2 391604-55-0 391611-77-1
(**light-emitting** elements and iridium complexes of fluorophenylpyridine derivs.)

L35 ANSWER 43 OF 57 HCA COPYRIGHT 2005 ACS on STN
136:191493 Organic **electroluminescent** device containing ortho-metalated complex. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002056976 A2 **20020222**, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION:

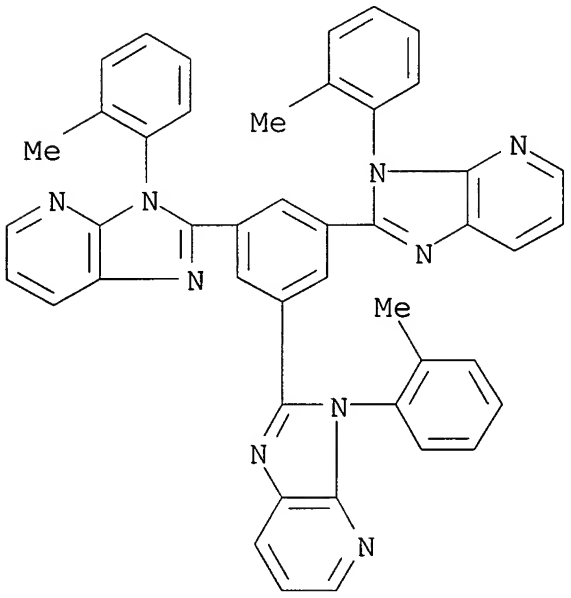
JP 2000-240950 20000809.

AB The device has an org. compd. layer including a hole-transporting layer and a **light-emitting** layer contg. an ortho-metalated complex and an **electron-transporting** material. Preferably, the ortho-metalated complex is Ir complex. Triplet excition is effectively used in the device, and it shows high brightness and luminous efficiency. The device is useful for large displays, back lights, and so on.

IT **358974-66-0**, 2,2',2''-(1,3,5-Benzenetriyl) tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine (**electron-transporting** material; org. **electroluminescent** device contg. orthometalated complex in **light-emitting** layer)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-10; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device orthometalated complex luminous efficiency; iridium complex **org electroluminescent** device **luminous** efficiency

IT **Electroluminescent** devices
(org. **electroluminescent** device contg. orthometalated complex in **light-emitting** layer)

IT 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl **358974-66-0**,

2,2',2''-(1,3,5-Benzenetriyl) tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine
(**electron-transporting** material; org. **electroluminescent** device contg. orthometalated complex in **light-emitting** layer)

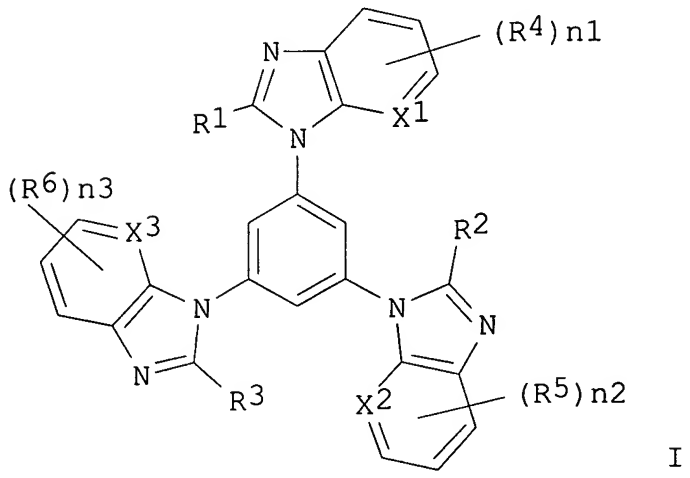
IT 25067-59-8, Polyvinylcarbazole
(hole-transporting material; org. **electroluminescent** device contg. orthometalated complex in **light-emitting** layer)

IT 94928-86-6, Tris(2-phenylpyridine)iridium
(org. **electroluminescent** device contg. orthometalated complex in **light-emitting** layer)

L35 ANSWER 44 OF 57 HCA COPYRIGHT 2005 ACS on STN

136:126313 **Light emitting** element and azole compound. Ise, Toshihiro; Igarashi, Tatsuya; Miyashita, Yousuke; Fujimura, Hidetoshi; Mishima, Masayuki; Okada, Hisashi; Qiu, Xuepeng (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl. EP 1175128 A2 **20020123**, 96 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-117288 20010717. PRIORITY: JP 2000-216339 20000717.

GI



I

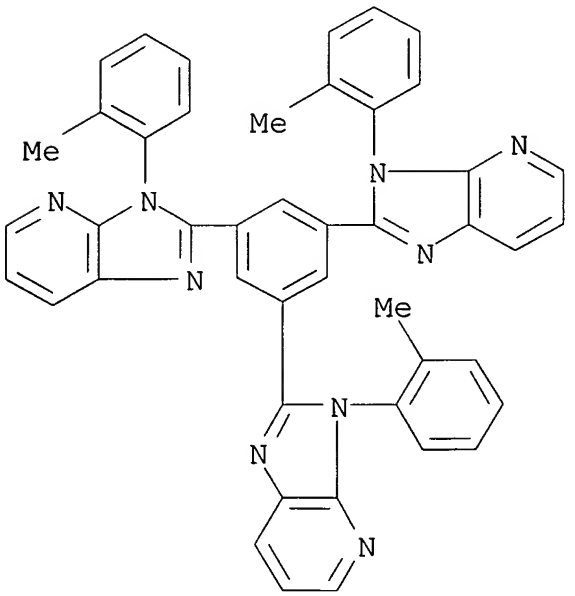
AB The title azole compds. are described by the general formula I (R1-3 = independently selected H or aliph. hydrocarbon; R4-6 = independently selected substituents; n1-3 = 0-3; X1-3 and Y1-3 = independently selected N or C-R groups; and R = independently

selected H or substituents). **Light-emitting** elements which comprise at least a **light-emitting** layer contg. a **light-emitting** material and a host material and having a max. emission wavelength of .ltoreq.500 nm are described in which the min. excitation triplet energy level of the host material is higher than the min. excitation triplet energy level of the **light-emitting** material. The elements may further comprise a layer which is disposed adjacent to the **light-emitting** layer and contains an org. material, wherein the min. excitation triplet energy level of the org. material is higher than the min. excitation triplet energy level of each of materials which constitute the **light emitting** layer. Preferably, the material in the layer adjacent to the **light-emitting** layer comprises the azole compds. I.

IT **358974-66-0**
(org. **electroluminescent** devices and azole compds. useable in them)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



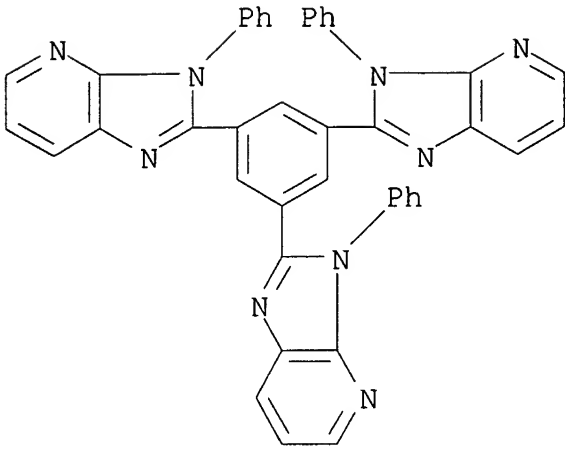
IC ICM H05B033-14
ICS H01L051-20; C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28, 76

ST azole compd; benzoazole deriv; org **electroluminescent**

device
IT Heterocyclic compounds
(nitrogen, five-membered, derivs.; org. **electroluminescent** devices and azole compds. useable in them)
IT **Electroluminescent** devices
(org.; org. **electroluminescent** devices and azole compds. useable in them)
IT 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride (LiF), uses 50926-11-9, Indium tin oxide 58328-31-7 65181-78-4 123847-85-8 148044-07-9 205327-13-5 255824-45-4 **358974-66-0** 391611-78-2
(org. **electroluminescent** devices and azole compds. useable in them)
IT 351863-09-7P 370878-69-6P 376367-95-2P 391252-53-2P 391611-76-0P 391665-84-2P
(org. **electroluminescent** devices and azole compds. useable in them)
IT 75-36-5, Acetylchloride 108-77-0, Cyanuric chloride 121-44-8, Triethylamine, reactions 123-54-6, Acetylacetone, reactions 615-15-6, 2-Methylbenzimidazole 13716-12-6, Tri-tert-butylphosphine 15635-87-7 58861-53-3, 2-(4-Fluorophenyl)pyridine 391250-41-2 391250-76-3 391604-55-0 391611-77-1
(org. **electroluminescent** devices and azole compds. useable in them)

L35 ANSWER 45 OF 57 HCA COPYRIGHT 2005 ACS on STN
136:61299 **Electroluminescent** device using styrylamines. Arai, Kazumi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001354955 A2 **20011225**, 33 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-177761 20000614.
AB The invention relates to a red-emitting **electroluminescent** device comprising R1R2R3N [R1-3 = (un)substituted aryl, hetercyclyl, aliph. hydrocarbyl; .gtoreq.2 of R1-3 is aryl or heterocyclyl; .gtoreq.1 of R1-3 is aryl or heterocyclyl formed by .gtoreq.3 rings; .gtoreq.2 of R1-3 may form a ring; .gtoreq.1 R1-3 is substituted by a group (5 - 7 membered ring):C(R4)(CR5:CR6)m- (R4-6 = H, substituent; m = 0, 1 or 2)]. The red luminous component offers superior in color purity.
IT **313950-73-1**
(**electroluminescent** devices using styrylamines and)
RN 313950-73-1 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C09K011-06; C07C225-22; C07D209-88; C07D333-36; C07D401-12; C07D409-12; C07D413-12; C07D417-12; C07D471-04; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74

ST styrylamine red emitting **electroluminescent** device

IT **Electroluminescent** devices
Luminescence
(of red **light-emitting** component using chem. compds. and styrylamines)

IT 382601-08-3P 382601-09-4P 382601-10-7P 382601-11-8P
382601-12-9P 382601-13-0P
(**electroluminescent** devices using styrylamines)

IT 852-38-0, PBD 905-62-4, 2,5-Bis(1-naphthyl)-1,3,4-oxadiazole
25067-59-8, Poly(N-vinylcarbazole) 65181-78-4, TPD
313950-73-1
(**electroluminescent** devices using styrylamines and)

L35 ANSWER 46 OF 57 HCA COPYRIGHT 2005 ACS on STN

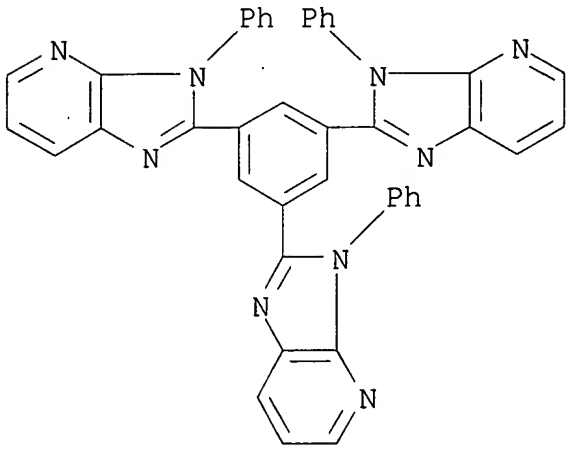
136:12632 New heterocyclic compound for **electroluminescent** device. Okada, Hisashi; Ise, Toshihiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001335776 A2 **20011204**, 52 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-218967 20000719. PRIORITY: JP 1999-207957 19990722; JP 2000-80734 20000322.

AB The invention relates to new heterocyclic compds., suited for use in making an **electroluminescent** device, represented by L-(A)m [A = heterocyclic group having .gtoreq.2 arom. hetero ring condensed; m = integer .gtoreq. 2; L = bonding group].

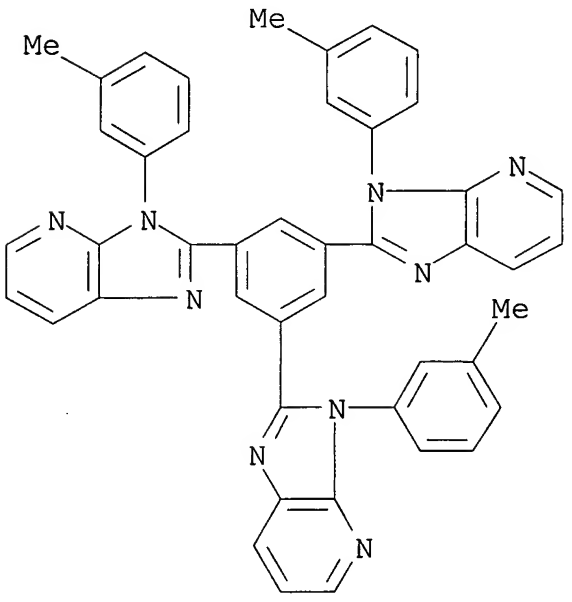
IT **313950-73-1P 328238-10-4P 358974-66-0P**
377092-06-3P 377092-10-9P 377092-12-1P

(in prepn. of new heterocyclic compd. for **electroluminescent** device)

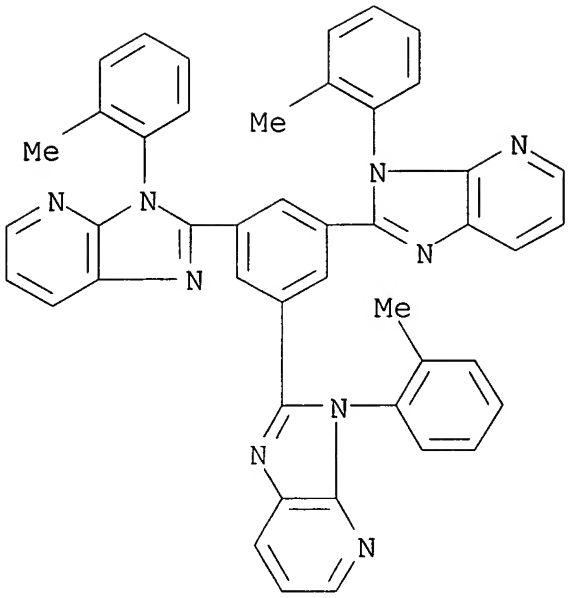
RN 313950-73-1 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



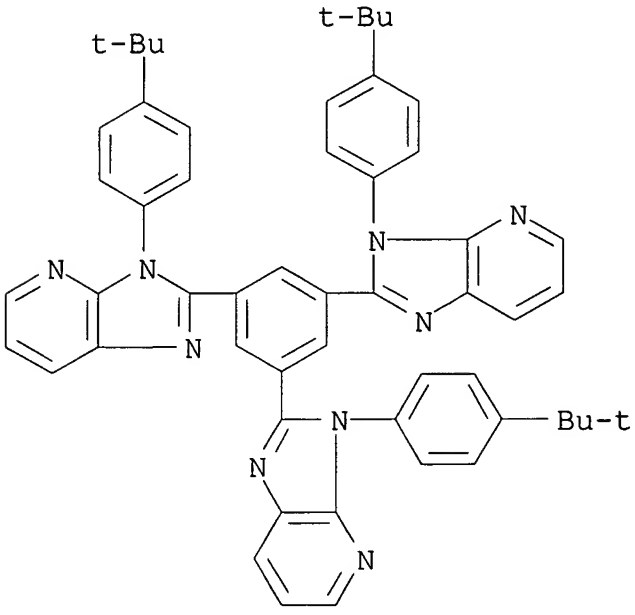
RN 328238-10-4 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(3-methylphenyl)- (9CI) (CA INDEX NAME)



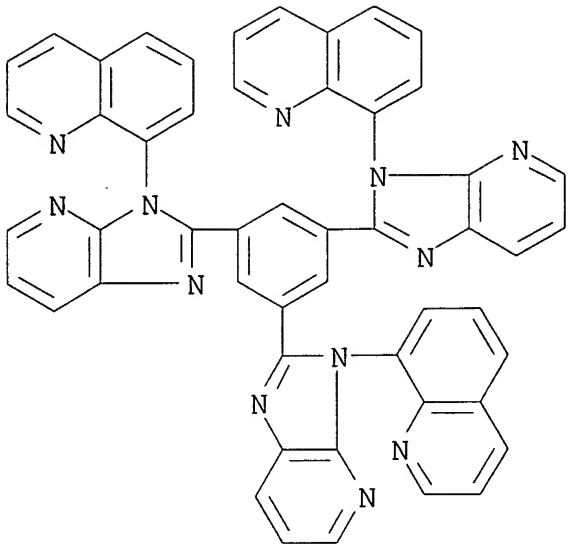
RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



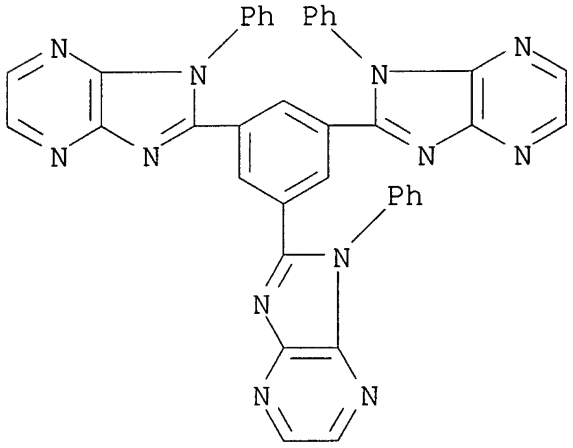
RN 377092-06-3 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 377092-10-9 HCA
CN Quinoline, 8,8',8''-[1,3,5-benzenetriyltris(3H-imidazo[4,5-b]pyridine-2,3-diyl)]tris- (9CI) (CA INDEX NAME)



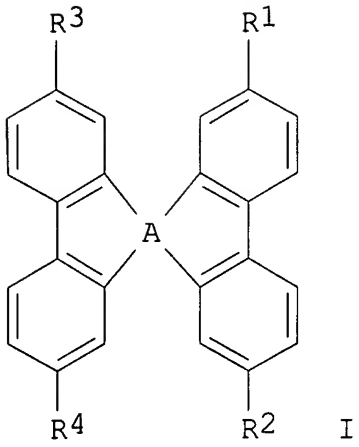
RN 377092-12-1 HCA
CN 1H-Imidazo[4,5-b]pyrazine, 2,2',2''-(1,3,5-benzenetriyl)tris[1-phenyl- (9CI) (CA INDEX NAME)



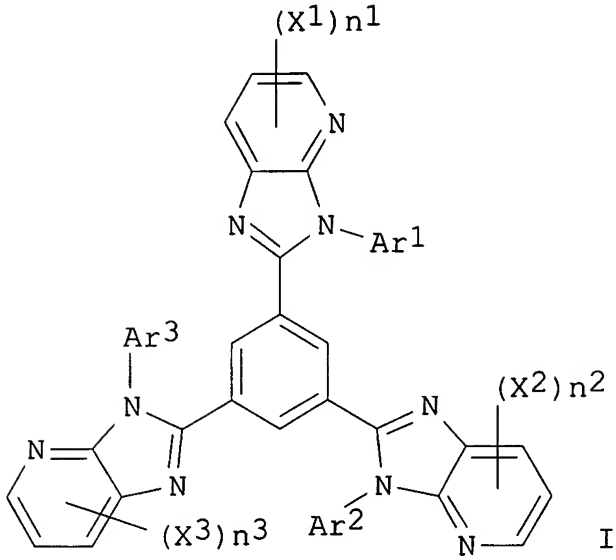
IC ICM C09K011-06
ICS C09K011-06; C07D519-00; C07F007-08; C07F007-30; H05B033-14; H05B033-22; C08F012-26; C08F226-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28
ST **electroluminescent** device heterocyclic compd
IT Luminescent substances
(**electroluminescent**; new heterocyclic compd. for **electroluminescent** device)

IT Heterocyclic compounds
(for **electroluminescent** device)
IT Dehydration reaction
(in prepn. of new heterocyclic compd. for **electroluminescent** device)
IT **Electroluminescent** devices
(new heterocyclic compd. for **electroluminescent** device)
IT **313950-73-1P 328238-10-4P 358974-66-0P**
377092-02-9P **377092-06-3P 377092-10-9P**
377092-11-0P **377092-12-1P** 377092-13-2P 377092-14-3P
377092-15-4P 377092-16-5P 377092-17-6P
(in prepn. of new heterocyclic compd. for **electroluminescent** device)
IT 62-53-3, Aniline, reactions 95-53-4, o-Toluidine, reactions
108-44-1, m-Toluidine, reactions 578-66-5, 8-Aminoquinoline
769-92-6, 4-tert-Butylaniline 2351-37-3, 4,4'-
Biphenyldicarbonylchloride 4422-95-1, Trimesic acid trichloride
5470-18-8, 2-Chloro-3-nitropyridine 57863-69-1 349666-24-6
(in prepn. of new heterocyclic compd. for **electroluminescent** device)
IT 34949-41-2P 54696-64-9P 54696-67-2P 78750-58-0P 350025-83-1P
350025-84-2P 377092-01-8P 377092-04-1P 377092-05-2P
377092-07-4P 377092-08-5P 377092-09-6P
(in prepn. of new heterocyclic compd. for **electroluminescent** device)
IT 471-34-1, Calcium carbonate, reactions 6192-52-5,
p-Toluenesulfonic acid monohydrate 7775-14-6, Sodium hydrosulfite
13454-89-2, Copper iodate
(in prepn. of new heterocyclic compd. for **electroluminescent** device)
IT 377092-03-0P
(in prepn. of new heterocyclic compd. for **electroluminescent** device)

L35 ANSWER 47 OF 57 HCA COPYRIGHT 2005 ACS on STN
135:378557 Organic **electroluminescent** component. Ishii, Masahiko; Tokito, Seiji; Noda, Hiroshi; Taga, Yasunori; Okada, Hisashi; Kimura, Makoto; Sawaki, Yasuhiko (Toyota Central Research and Development Laboratories, Inc., Japan; Fuji Photo Film Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 2001326079 A2 **20011122**, 2218 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-145774 20000517.
GI



I



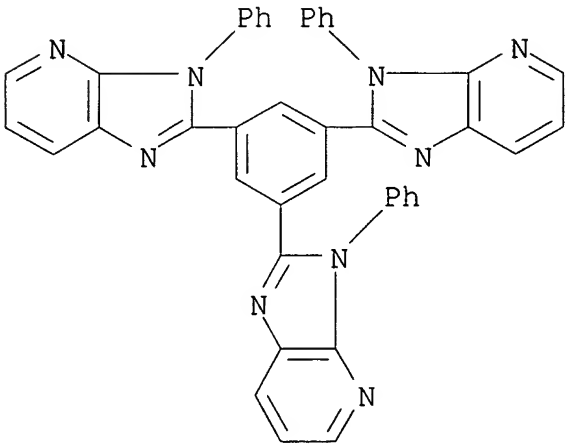
II

AB The invention refers to an org. **electroluminescent** component comprising I [R1-4 = substituents; A = .gtoreq. 2 C atoms, .gtoreq. 1 carbon substituted with non-carbon atoms or form a biphenyl deriv.] as a hole transport luminescent layer, and II [Ar1-3 = aryl or arom. heterocycle; X1-3 = substituents; n1-3 = 0 - 3] as a **electron transport** layer.

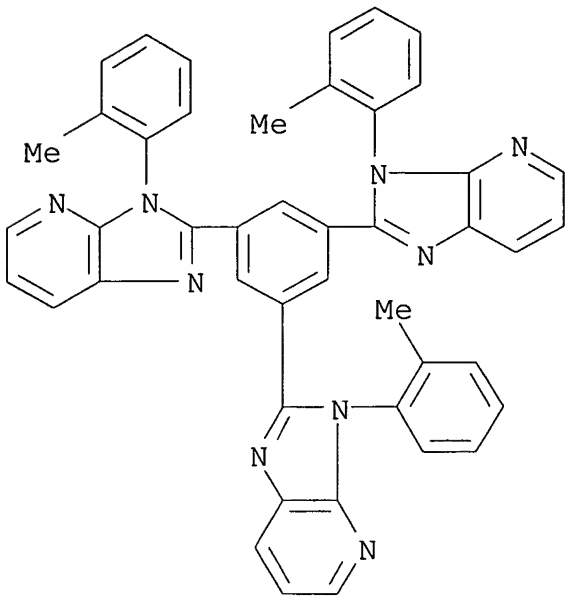
IT **313950-73-1 358974-66-0**
(org. **electroluminescent** component)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



RN 358974-66-0 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-22; C07C211-61; C07D471-04; C07D519-00
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST **electroluminescent** device synthesis
IT **Electroluminescent** devices
Synthesis
(org. **electroluminescent** component)
IT 19205-19-7, N,N'-Dimethylquinacridone 51325-91-8, DCM1 267884-21-9 267884-22-0 **313950-73-1 358974-66-0**
(org. **electroluminescent** component)
IT 90-30-2, 1-Naphthyl phenyl amine 122-39-4, Diphenylamine, reactions 14348-75-5, 2,7-Dibromo-9-fluorenone
(org. **electroluminescent** component)
IT 113933-91-8P 261517-63-9P 267884-20-8P
(org. **electroluminescent** component)

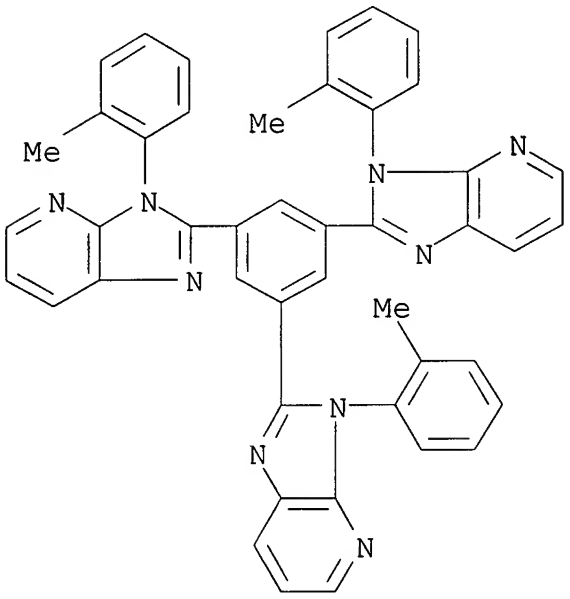
L35 ANSWER 48 OF 57 HCA COPYRIGHT 2005 ACS on STN
135:364352 **Electroluminescent** device. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001319779 A2 **20011116**, 7 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 2000-133529 20000502.
AB The invention relates to an **electroluminescent** device comprising .gtoreq.2 **electroluminescent** layers, suited for

use in making a full color display, a backlight, a flat illumination device, etc., wherein the ortho-metal complex is contained in the **electroluminescent** layers as an **electroluminescent** substance.

IT **358974-66-0**
(org. **electroluminescent** device)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74

ST **electroluminescent** device ortho metal complex

IT **Electroluminescent** devices
(org. **electroluminescent** device)

IT Coordination compounds
(ortho-metal; org. **electroluminescent** device)

IT 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl 65181-78-4, N,N'-Bis[3-methylphenyl]-N,N'-diphenylbenzidine 123847-85-8 **358974-66-0**
(org. **electroluminescent** device)

IT 94928-86-6, Tris(2-phenylpyridine)iridium
(org. **electroluminescent** device)

L35 ANSWER 49 OF 57 HCA COPYRIGHT 2005 ACS on STN

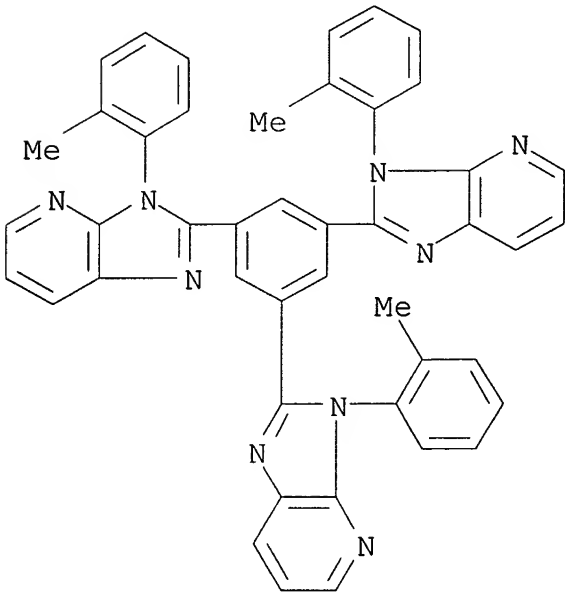
135:364343 **Electroluminescent** device. Mishima, Masayuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001319780 A2 **20011116**, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-133530 20000502.

AB The invention relates to an **electroluminescent** device comprising .gtoreq.2 **electroluminescent** substances contained in an **electroluminescent** layer(s), suited for use in making a full color display, a backlight, a flat illumination device, etc., wherein, at least, one of the **electroluminescent** substances is an ortho-metal complex.

IT **358974-66-0**
(**electroluminescent** device comprising .gtoreq.2 **electroluminescent** substances in **electroluminescent** layer(s))

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06

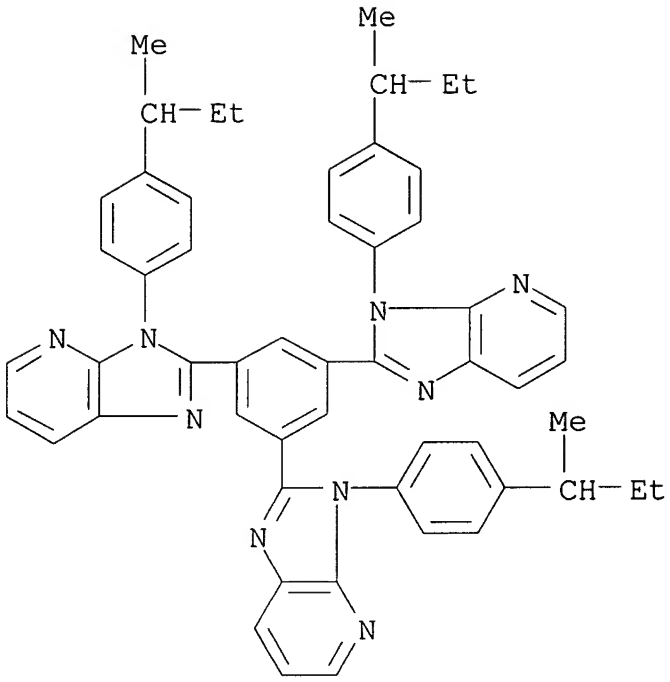
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74

ST **electroluminescent** device ortho metal complex

IT **Electroluminescent** devices
(**electroluminescent** device comprising .gtoreq.2 **electroluminescent** substances in **electroluminescent** layer(s))

IT Coordination compounds
(ortho-metal; **electroluminescent** device comprising .gtoreq.2 **electroluminescent** substances in **electroluminescent** layer(s))
IT 517-51-1, Rubrene 15082-28-7 25067-59-8, Polyvinylcarbazole 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl **358974-66-0**
(**electroluminescent** device comprising .gtoreq.2 **electroluminescent** substances in **electroluminescent** layer(s))
IT 1450-63-1, 1,1,4,4,-Tetraphenylbutadiene 51325-91-8, 4-[Dicyanomethylene]-2-methyl-6-[4-dimethylaminostyryl]-4H-pyran 94928-86-6, Tris[2-phenylpyridine]iridium 337526-95-1 349666-25-7
(**electroluminescent** device comprising .gtoreq.2 **electroluminescent** substances in **electroluminescent** layer(s))

L35 ANSWER 50 OF 57 HCA COPYRIGHT 2005 ACS on STN
135:310683 Organic **electroluminescent** material, heterocyclic compound, and **electroluminescent** device. Taguchi, Toshiki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001288172 A2 **20011016**, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-98821 20000331.
AB The org. **electroluminescent** material contains .gtoreq.1 of the claimed electron-deficient heterocyclic arom. compd. involving .gtoreq.2 asym. C. The **electroluminescent** device uses the material contained in .gtoreq.1 **electron-transporting** layer, .gtoreq.1 electron-implanting layer, or .gtoreq.1 **light-emitting** layer sandwiched between a pair of electrodes. The device has high brightness and durability.
IT **366804-24-2**
(arom. heterocyclic compd. having asym. carbon as phosphor for **electroluminescent** device)
RN 366804-24-2 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-[4-(1-methylpropyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM C07D235-18
ICS C07D249-08; C07D263-54; C07D271-06; C07D271-10; C07D277-64; C07D471-06; C07D519-00; H05B033-14; H05B033-22; C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28

ST org **electroluminescent** material electron deficient compd; arom heterocyclic **electroluminescent** material asym carbon; **electroluminescent** device arom heterocyclic compd

IT **Electroluminescent** devices
(arom. heterocyclic compd. having asym. carbon as phosphor for **electroluminescent** device)

IT Phosphors
(**electroluminescent**; arom. heterocyclic compd. having asym. carbon as phosphor for **electroluminescent** device)

IT 366804-19-5 366804-20-8 366804-21-9 366804-22-0 **366804-24-2**
(arom. heterocyclic compd. having asym. carbon as phosphor for **electroluminescent** device)

IT 366804-23-1P
(arom. heterocyclic compd. having asym. carbon as phosphor for **electroluminescent** device)

IT 1493-27-2, o-Fluoronitrobenzene 4422-95-1, 1,3,5-Benzenetricarbonyl trichloride 30273-11-1
(for prepn. of arom. heterocyclic compd. having asym. carbon as

phosphor for **electroluminescent** device)

IT 366804-25-3P 366804-26-4P 366804-27-5P
(intermediate; for prepn. of arom. heterocyclic compd. having asym. carbon as phosphor for **electroluminescent** device)

L35 ANSWER 51 OF 57 HCA COPYRIGHT 2005 ACS on STN

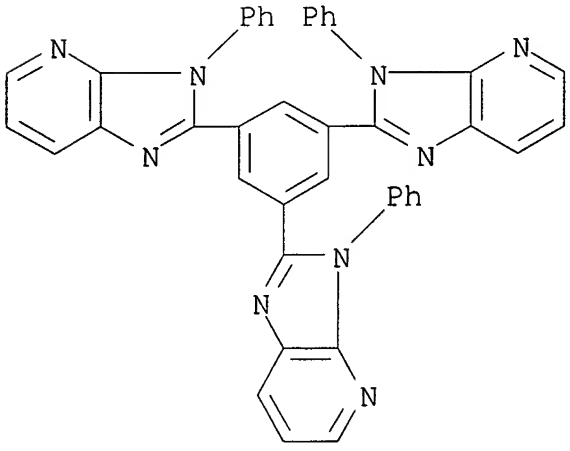
135:296021 Color-converting film and **light-emitting** apparatus using the same. Hirai, Hiroyuki (Japan). U.S. Pat. Appl. Publ. US 20010028962 A1 **20011011**, 8 pp. (English).
CODEN: USXXCO. APPLICATION: US 2001-820687 20010330. PRIORITY: JP 2000-97604 20000331.

AB Color-converting films are described which comprise a light-transmittable substrate and a color-converting layer disposed thereon, wherein the color-converting layer contains an ortho-metalation complex. The color-converting layer may addnl. contain a dye and/or a pigment. **Light-emitting** app. comprising the color-converting films are also described.

IT **313950-73-1**
(color-converting films contg. ortho-metalation complexes and **light-emitting** app. using them)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-00
ICS G02B005-20

INCL 428690000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78

ST **electroluminescent** device metal complex color conversion film

IT Optical films

(color conversion; color-converting films contg. ortho-metalation complexes and **light-emitting** app. using them)

IT Cyanine dyes
Electroluminescent devices
(color-converting films contg. ortho-metalation complexes and **light-emitting** app. using them)

IT Dyes
(xanthene; color-converting films contg. ortho-metalation complexes and **light-emitting** app. using them)

IT 147-14-8, Copper phthalocyanine 7429-90-5, Aluminum, uses 25067-59-8, Poly(N-vinylcarbazole) 50926-11-9, ITO 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl **313950-73-1** 350025-79-5
(color-converting films contg. ortho-metalation complexes and **light-emitting** app. using them)

IT 337526-85-9 337526-88-2 343978-78-9 359014-71-4
(color-converting films contg. ortho-metalation complexes and **light-emitting** app. using them)

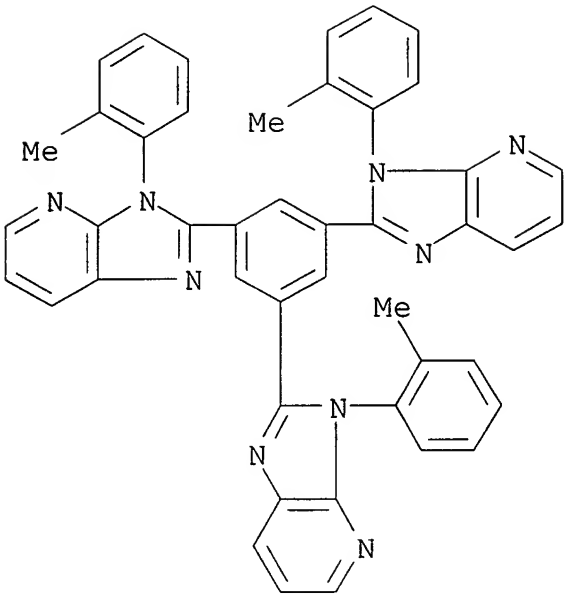
L35 ANSWER 52 OF 57 HCA COPYRIGHT 2005 ACS on STN
135:233635 **Light-emitting** material comprising orthometalated iridium complex, **light-emitting** device, high efficiency red **light-emitting** device, and novel iridium complex. Igarashi, Tatsuya; Kimura, Keizo; Nii, Kazumi (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2001019782 A1 **20010906**, 37 pp. (English). CODEN: USXXCO. APPLICATION: US 2000-747933 20001227. PRIORITY: JP 1999-370349 19991227; JP 2000-89274 20000328; JP 2000-298470 20000929; JP 2000-299495 20000929.

AB **Light-emitting** materials comprising orthometalated iridium complexes with .gtoreq.1 ligand comprising a nitrogen-contg. heterocyclic derivs., and the complexes, are described. **Electroluminescent** devices employing the complexes are also described.

IT **358974-66-0**
(**light-emitting** materials comprising orthometalated iridium complexes and **light-emitting** devices using them and iridium complexes)

RN 358974-66-0 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC H05B003-312; C07F015-00; C07D213-02; C07D221-02; C07D247-00; C07D009-04
INCL 428690000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78
ST luminescent material orthometalated iridium complex; **electroluminescent** device orthometalated iridium complex
IT **Electroluminescent** devices
Luminescent substances
(**light-emitting** materials comprising orthometalated iridium complexes and **light-emitting** devices using them and iridium complexes)
IT 7429-90-5, Aluminum, uses 15082-28-7 25067-59-8, Poly(N-vinylcarbazole) 37271-44-6 50926-11-9, ITO 52352-02-0 58328-31-7 94928-86-6 123847-85-8, .alpha.-NPD 153838-48-3 343978-78-9 358974-63-7 **358974-66-0** 359014-71-4 359014-72-5 359014-73-6 359014-74-7 359014-75-8 359014-77-0 359014-78-1 359014-79-2
(**light-emitting** materials comprising orthometalated iridium complexes and **light-emitting** devices using them and iridium complexes)
IT 359014-63-4P 359014-64-5P 359014-69-0P
(**light-emitting** materials comprising orthometalated iridium complexes and **light-emitting** devices using them and iridium complexes)
IT 337526-95-1P 359014-65-6P 359014-66-7P 359014-67-8P

359014-68-9P 359014-70-3P 359014-76-9P
(**light-emitting** materials comprising orthometalated iridium complexes and **light-emitting** devices using them and iridium complexes)

IT 101-82-6, 2-Benzylpyridine 123-54-6, Acetylacetone, reactions 612-96-4, 2-Phenylquinoline 630-08-0, Carbon monoxide, reactions 1008-89-5, 2-Phenylpyridine 10025-83-9, Iridium trichloride 16920-56-2 20375-65-9 24702-41-8 47077-29-2
(**light-emitting** materials comprising orthometalated iridium complexes and **light-emitting** devices using them and iridium complexes)

IT 50851-57-5
(polyethylene dioxythiophene doped with; **light-emitting** materials comprising orthometalated iridium complexes and **light-emitting** devices using them and iridium complexes)

IT 126213-51-2, Poly(3,4-ethylenedioxythiophene)
(polystyrene sulfonate-doped; **light-emitting** materials comprising orthometalated iridium complexes and **light-emitting** devices using them and iridium complexes)

L35 ANSWER 53 OF 57 HCA COPYRIGHT 2005 ACS on STN

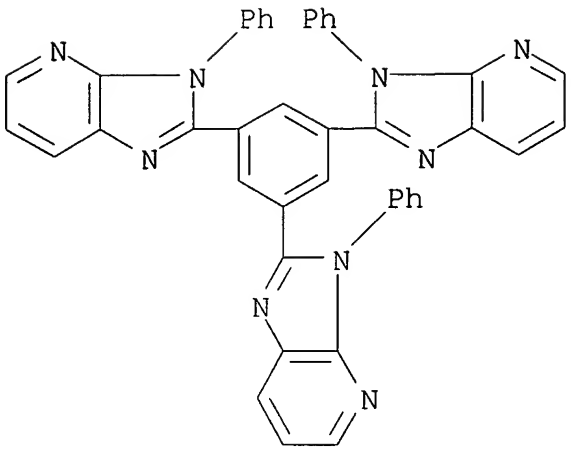
135:202768 Luminescent material, luminescent component and amine compound. Arai, Kazumi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001234159 A2 **20010828**, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-48155 20000224.

AB The invention refers to an **electroluminescent** material contg. R3R2NAr1CR4:CR5L1CR6:CR7Ar8 [Ar1 = divalent aryl or heterocyclic; R2,3 = aryl, hetero cyclic, aliph. hydrocarbon; Ar1, R2,3 may be joined to form a ring; Ar8 = aryl or heterocyclic which may be substituted with an amine; R4-7 = H, or a univalent, wherein at least one is an electron-withdrawing group with a Hammett .sigma.p value > 0.2; L2 = divalent aryl, heterocyclic or a combined aryl and heterocyclic, vinyl, C:X, silyl, aryl, arom. hetero 5- or 6- membered ring; X = O, S, NRx1 or CRx2Rx3; Rx1,x2,x3 = H or univalent].

IT **313950-73-1**
(luminescent material, luminescent component and amine compd.)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C09K011-06; C07C255-42; C07C255-58; C07C317-48; C07D213-57; C07D223-14; C07D235-16; C07D241-42; C07D263-54; C07D263-56; C07D265-38; C07D271-10; C07D277-64; C07D279-22; C07D285-12; C07D295-16; C07D307-54; C07D307-91; C07D333-24

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST **electroluminescent** device amine

IT Phosphors
(**electroluminescent**; luminescent material, luminescent component and amine compd.)

IT **Electroluminescent** devices
(luminescent material, luminescent component and amine compd.)

IT 147-14-8, Copper phthalocyanine 852-38-0, PBD 905-62-4, 2,5-Bis(1-naphthyl)-1,3,4-oxadiazole 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 7439-95-4, Magnesium, uses 7440-22-4, Silver, uses 25067-59-8, Poly(N-vinylcarbazole) 27236-84-6, Tetraphenyl butadiene 50926-11-9, ITO 65181-78-4, TPD 123847-85-8, .alpha.-NPD **313950-73-1** 357199-56-5 357199-57-6 357199-58-7 357199-59-8
(luminescent material, luminescent component and amine compd.)

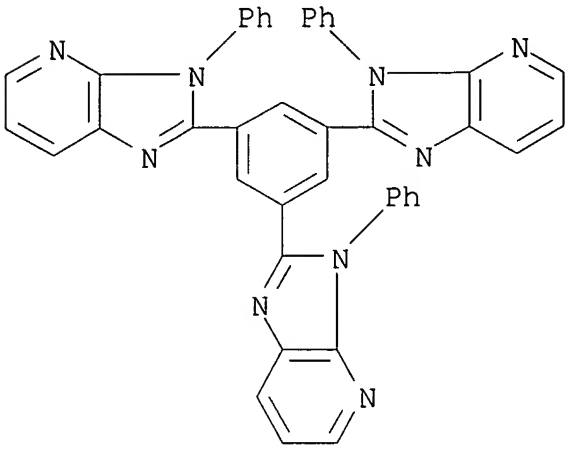
L35 ANSWER 54 OF 57 HCA COPYRIGHT 2005 ACS on STN

135:114278 Organic **electroluminescent** device. Kohama, Toru; Makiyama, Akira; Kitazawa, Daisuke (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2001196181 A2 **20010719**, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-6934 20000114.

AB The invention relates to an org. **electroluminescent** device that comprises the fluorescent material contg. an imidazo-heterocyclic frame.

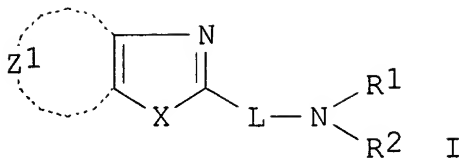
IT **313950-73-1**
(org. **electroluminescent** device comprising fluorescent

material contg. imidazo-heterocyclic frame)
RN 313950-73-1 HCA
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; G09F009-30; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org **electroluminescent** device imidazo heterocyclic compd
IT **Electroluminescent** devices
Fluorescent substances
(org. **electroluminescent** device comprising fluorescent material contg. imidazo-heterocyclic frame)
IT 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 7429-90-5, Aluminum, uses 65181-78-4, TPD **313950-73-1**
(org. **electroluminescent** device comprising fluorescent material contg. imidazo-heterocyclic frame)
IT 7439-93-2, Lithium, uses
(org. **electroluminescent** device comprising fluorescent material contg. imidazo-heterocyclic frame)

L35 ANSWER 55 OF 57 HCA COPYRIGHT 2005 ACS on STN
135:114270 Novel condensed hetero ring compound and **electroluminescent** material. Ise, Toshihiro; Okada, Hisashi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001192653 A2 **20010717**, 36 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-89632 20000328. PRIORITY: JP 1999-305733 19991027.
GI



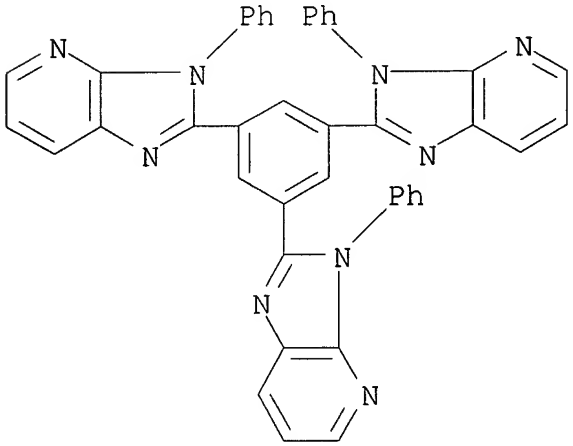
I

AB The invention refers to a novel condensed hetero ring compd. I [R1,2 = H, aliph. hydrocarbon, aryl or hetero ring; Z1 = atoms need to construct a heterocyclic; L = bridging functional group; X = O, S, Se, Trace element or N-R; R = H, aliph. hydrocarbon, aryl or heterocyclic].

IT **313950-73-1**
(novel condensed hetero ring compd. and **electroluminescent** material)

RN 313950-73-1 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C09K011-06; C07D471-04; C07D519-00; H05B033-14; C09B057-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST **electroluminescent** material

IT Phosphors
(**electroluminescent**; novel condensed hetero ring compd. and **electroluminescent** material)

IT 25067-59-8, Poly(N-vinyl carbazole)
(0novel condensed hetero ring compd. and **electroluminescent** material)

IT 15082-28-7, 2-(4-Biphenyl)-5-(4-tert-butylphenyl)-1,3,4-oxadiazole

50926-11-9, ITO 123847-85-8, .alpha.-NPD 192198-85-9
313950-73-1
(novel condensed hetero ring compd. and **electroluminescent** material)

IT 350025-75-1P 350025-76-2P 350025-77-3P 350025-78-4P
350025-79-5P 350025-82-0P
(novel condensed hetero ring compd. and **electroluminescent** material)

IT 62-53-3, Aniline, reactions 86-74-8, Carbazole 109-89-7, Diethyl amine, reactions 122-39-4, Diphenyl amine, reactions 135-88-6, 2-Naphthylphenyl amine 586-75-4, 4-Bromobenzoyl chloride 5470-18-8, 2-Chloro-3-nitropyridine 7681-38-1, Sodium hydrosulfate 23950-59-6, 3,5-Dibromobenzoyl chloride 29875-73-8, 9H-Tribenz[b,d,f]azepine 57863-69-1
(novel condensed hetero ring compd. and **electroluminescent** material)

IT 34949-41-2P 350025-73-9P 350025-74-0P 350025-80-8P
350025-81-9P 350025-83-1P 350025-84-2P 350025-85-3P
(novel condensed hetero ring compd. and **electroluminescent** material)

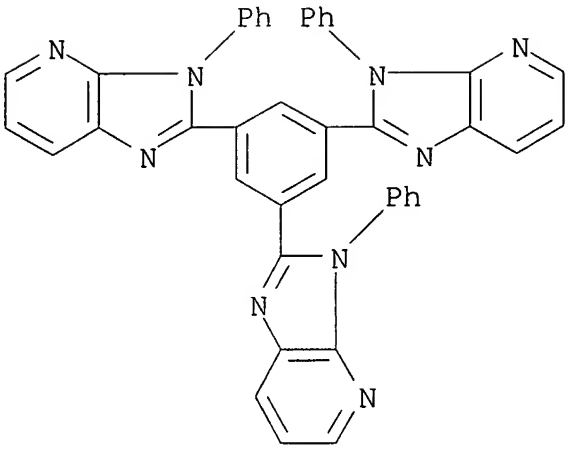
L35 ANSWER 56 OF 57 HCA COPYRIGHT 2005 ACS on STN
135:114269 Condensed polycyclic hydrocarbon compound and luminescent material. Igarashi, Tatsuya (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001192652 A2 **20010717**, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-3687 20000112.

AB The invention refers to a condensed polycyclic hydrocarbon compd. R1N(R2)R3 [R1-3 = polycyclic hydrocarbon with at least three rings].

IT **313950-73-1**
(condensed polycyclic hydrocarbon compd. and luminescent material)

RN 313950-73-1 HCA

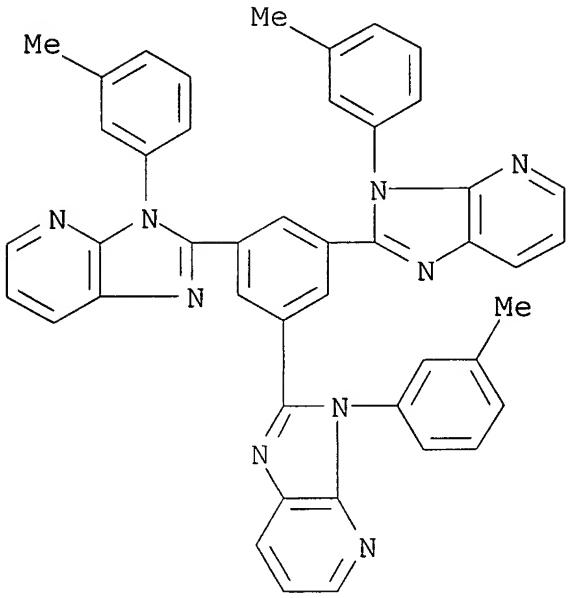
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C07C211-54; H05B033-14; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST polycyclic **electroluminescent** material
IT Phosphors
(**electroluminescent**; condensed polycyclic hydrocarbon compd. and luminescent material)
IT 852-38-0, PBD 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 123847-85-8, .alpha.-NPD 213527-39-0 **313950-73-1**
(condensed polycyclic hydrocarbon compd. and luminescent material)

L35 ANSWER 57 OF 57 HCA COPYRIGHT 2005 ACS on STN
134:214719 Organic **electroluminescent** device. Araki, Yasushi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001060496 A2 **20010306**, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-236042 19990823.
AB The invention relates to an org. **electroluminescent** device comprising an org. layer, including an **electron transporting** layer, suited for use as a light source in an exposure app., wherein the ionization potential of the **electron transporting** org. layer is .ltoreq.5.8 eV, and de/dt is .ltoreq.0.30, where de and dt are the thickness of the **electron transporting** layer and total thickness of the org. layer, resp., for enhancing the characteristics on pulsed operation.
IT **328238-10-4**
(**electron transporting** layer; org. **electroluminescent** device suited for use in pulsed operation)
RN 328238-10-4 HCA

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(3-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescent** device pulsed **electron transporting** layer

IT **Electroluminescent** devices
(org. **electroluminescent** device suited for use in pulsed operation)

IT 16073-26-0 192198-85-9 **328238-10-4**
(**electron transporting** layer; org. **electroluminescent** device suited for use in pulsed operation)